

MAY, 1922

# THE MINING CONGRESS JOURNAL

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no. 5



## In This Issue

Physical &  
Applied Sci.  
Soc.

Engineering

WESTERN MINING CONFERENCE IS CALLED

COAL REGULATION PLAN UNCONSTITUTIONAL

NEW ERA FOR ALASKAN COAL DEVELOPMENT

MINERAL PROVISIONS OF TARIFF BILL

PROPOSALS FOR "LAKES-TO-OCEAN" WATERWAY

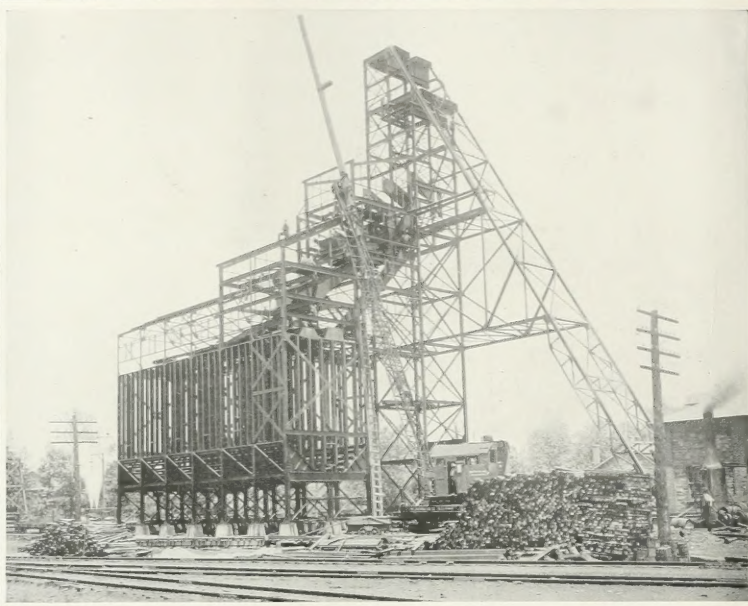
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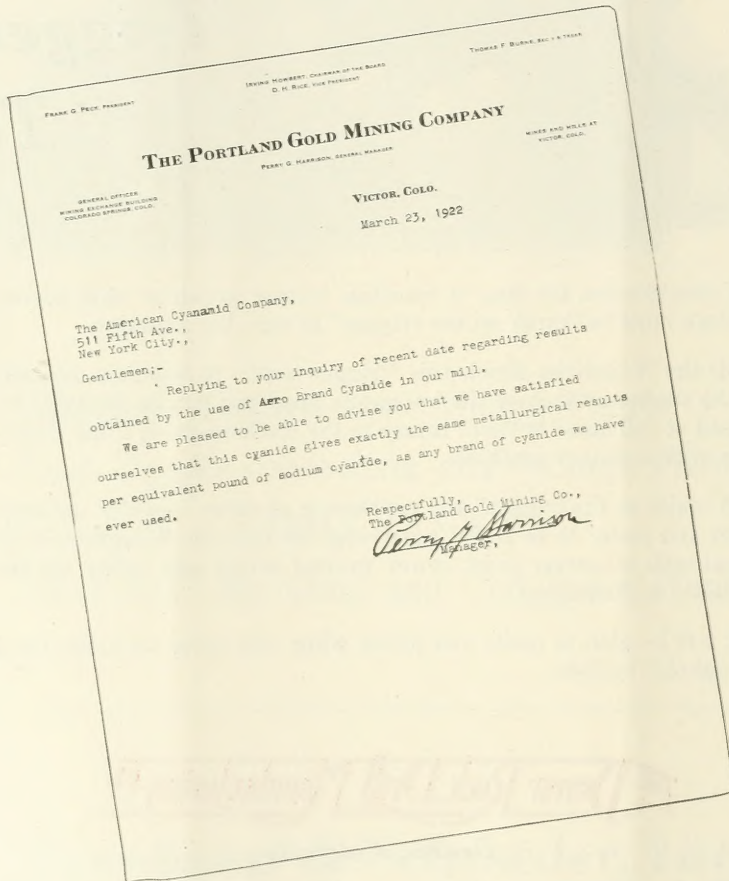
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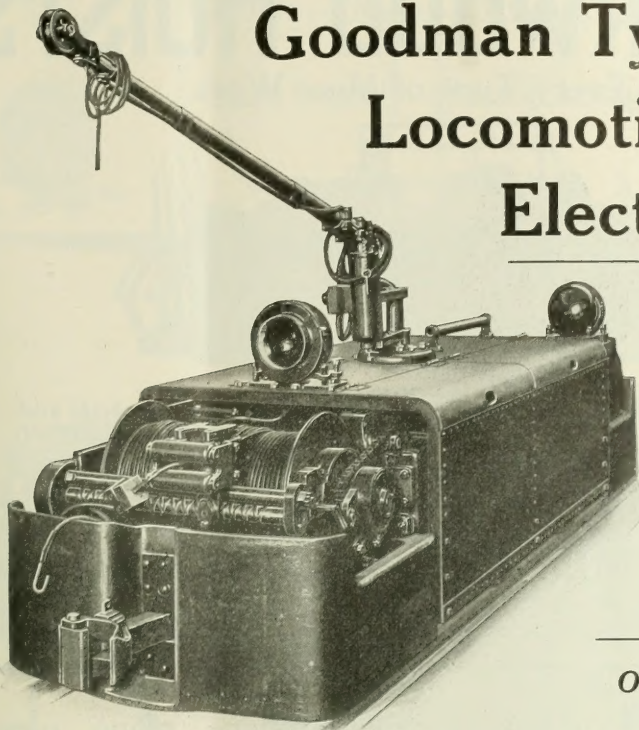


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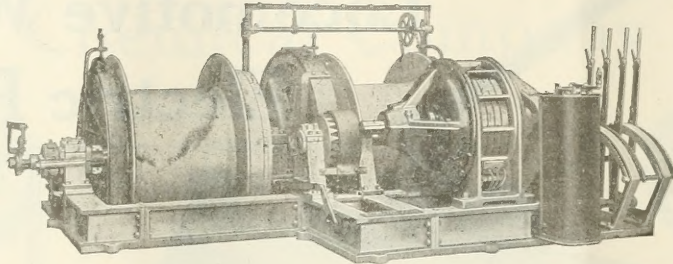
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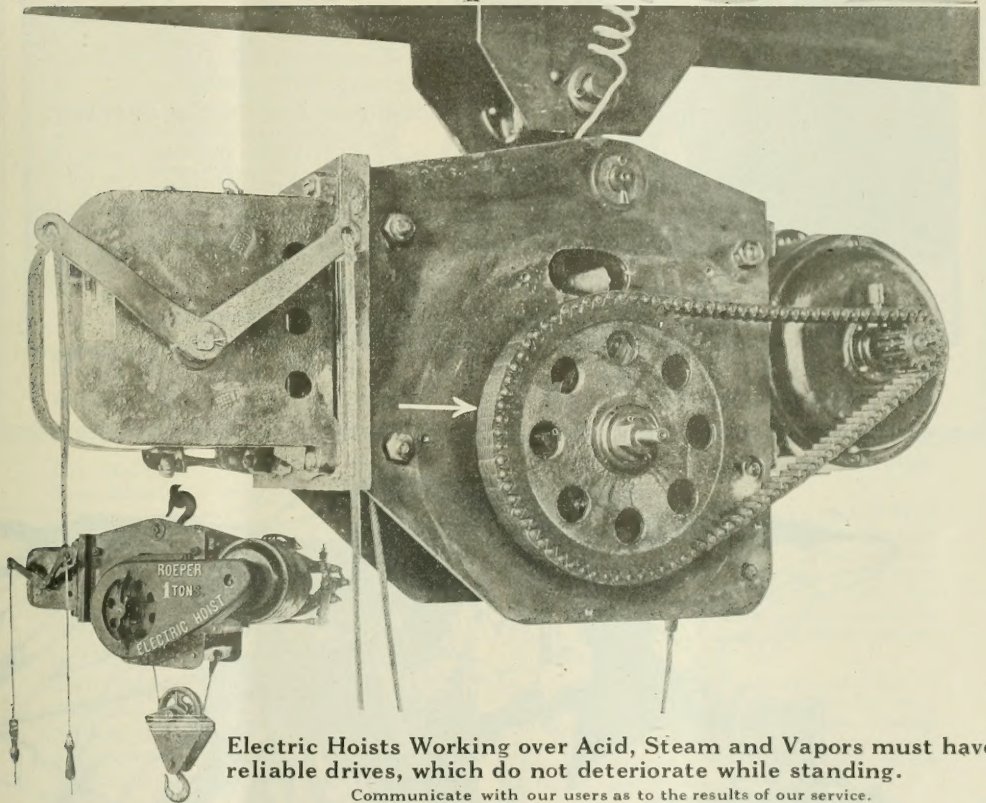


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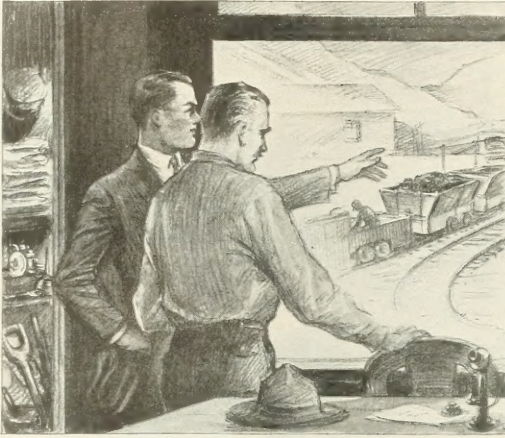
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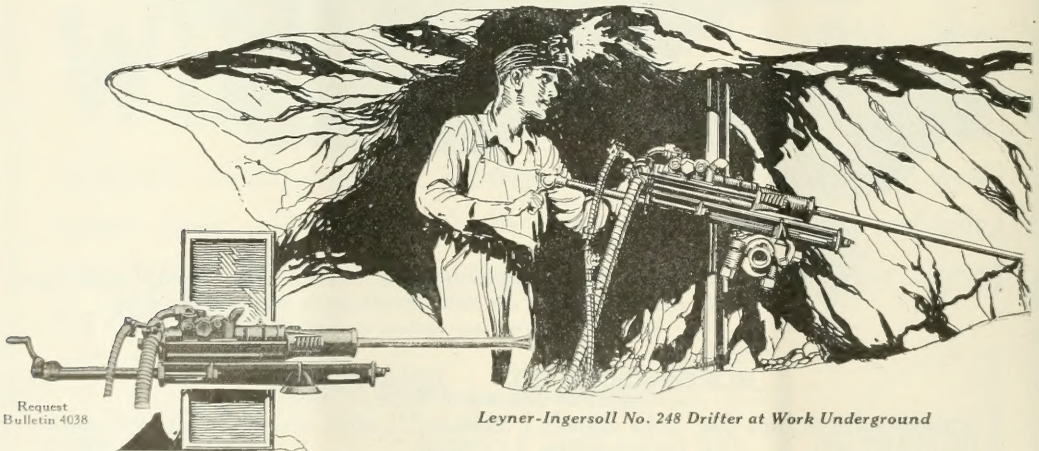
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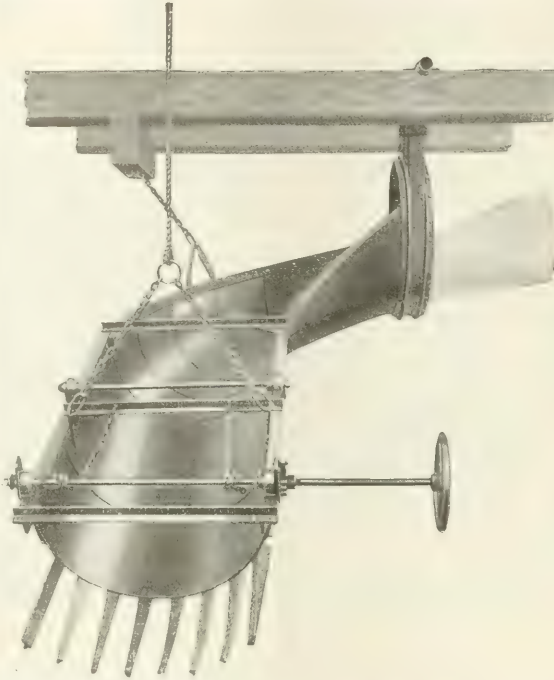
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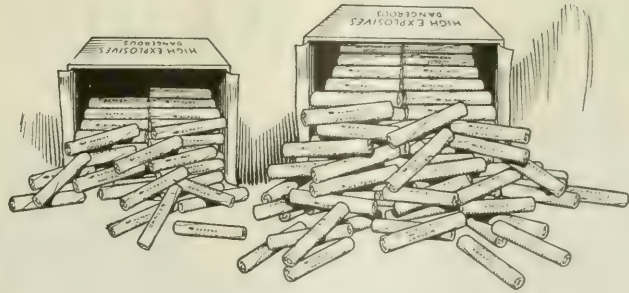
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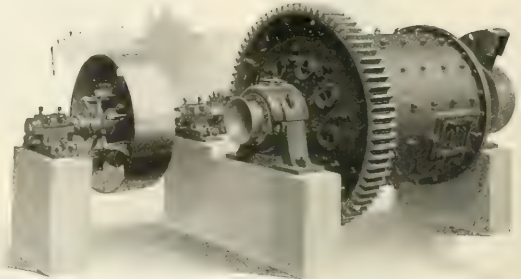
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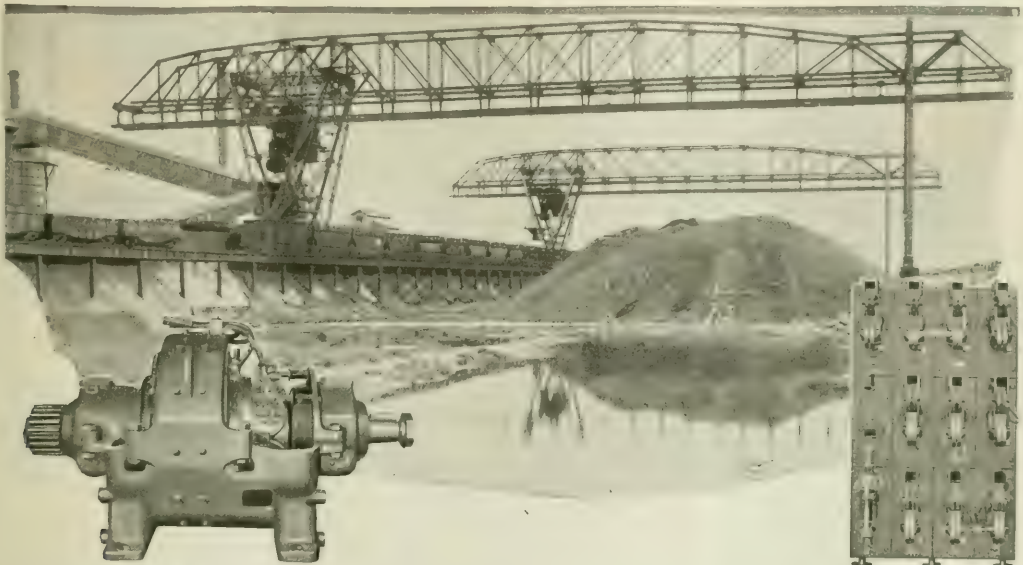
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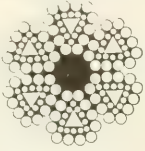
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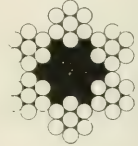
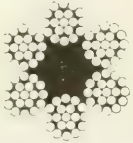
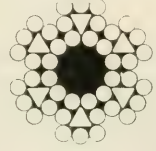
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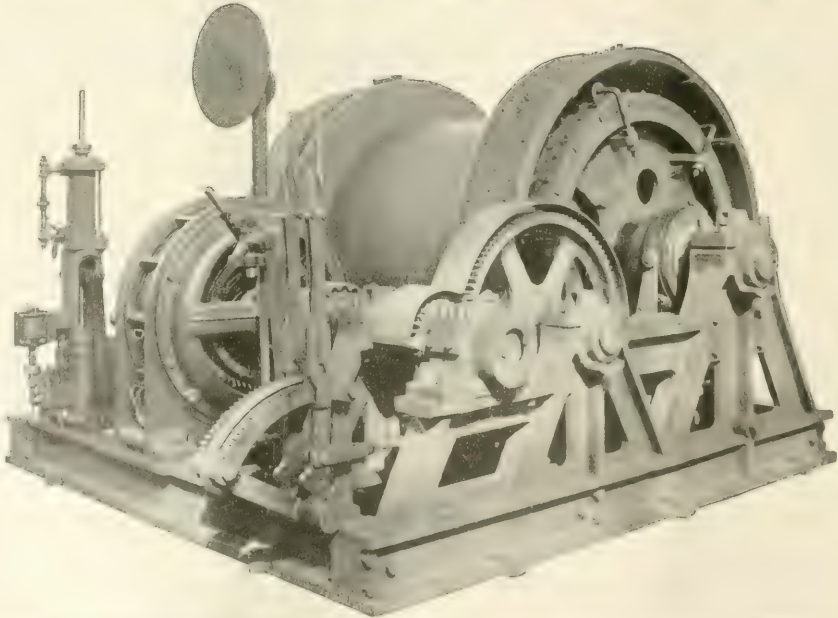
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# The MINING CONGRESS JOURNAL

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## TABOO POLITICS; APPLY BUSINESS PRINCIPLES

**A**N UNBALANCED budget, a Treasury deficit, a bonus bill, a coal strike, a railroad mess, a new tax bill, and a tariff muddle are a few of the difficulties which confront the nation and which have supplanted, at least temporarily, the problem of the high cost of living. Failure to meet these difficulties sensibly and effectively will again place the cost of living issue and the prospect of further industrial depression in the foreground.

The budget system should result in a great saving in the cost of government, and its operation should make possible the full application to the public business the same business principles that govern the conduct of successful private enterprise. It is imperative that our government set an example in this regard for the countries of Europe to follow as well as for our own economic stability.

The Treasury deficit in prospect for the fiscal year 1923 must be overcome and all possibilities for meeting it examined before the questionable and dangerous expedient of an increase in taxation is resorted to. The proposed bonus legislation aggravates the situation. If this measure could be postponed there might be some hope of making up the deficit by utilizing government securities representing the eleven billion dollars indebtedness owed this government by the governments of Europe; but as long as the bonus question is unsettled, there appears to be slight hope that the anticipated deficit will be taken care of in this manner.

Delay in enacting the new tariff bill into law is exceedingly costly in view of the fact that Treasury estimates indicate that this bill will bring in more than \$350,000,000 annually in revenue, enough to cover the deficit.

The coal strike has made the railroad situation more serious, for coal traffic furnishes a very large percentage of the aggregate freight tonnage and freight revenue. During recent years it has been the practice to increase taxes whenever additional revenue is needed, and whenever the railroads presented a strong plea of poverty to permit an increase in freight rates.

It is sickening to contemplate what will happen if this practice continues. The logical result of such a policy, if continued, would be still less business, which already is depressed because of the burdens it has to bear, still less revenue from taxes and rates, still other increases necessitated by reason of increasing deficits, until ultimately there would be no business, no freight traffic, and all tax and rate levies would be futile.

It is not predicted that such a short-sighted policy will be pursued until such disaster threatens but the tendency in the past has been in this direction and should be avoided in the future. No shilly-shally tactics should be countenanced in dealing with present issues. The

prosperity of the country is at stake. Those who have been entrusted with the task of working out the proper solution should be guided by principle and not by politics. This is a time when partisan ideas should have no place in the program to be evolved and the remedy to be applied. This is a situation where political considerations should be cast aside and all measures to be taken conceived in the interests of the common welfare.

## MELLON REPORTS SURPLUS

**R**EVISED ESTIMATES as to receipts and expenditures of the government for the fiscal years 1922 and 1923 have been submitted by Secretary of the Treasury Mellon to Senator McCumber, chairman of the Senate Finance Committee. These estimates indicate an excess of receipts over expenditures of approximately \$47,000,000 for 1922 as compared with a deficit of about \$24,000,000 shown in the budget submitted last December. However, the estimates show an impending deficit of about \$359,000,000 for the fiscal year 1923 instead of \$167,571,000 as indicated by the December budget. Total ordinary receipts for 1922 are estimated at \$3,994,000,000 and net expenditures at \$3,947,000,000; while for 1923 receipts are estimated at \$3,298,000,000 and expenditures at \$3,657,000,000.

In view of the fact that there is said to be outstanding more than \$1,000,000,000 in uncollected taxes of 1917, 1918, 1919, and 1920, a deficit next year does not seem justifiable. Either the income tax unit should be reorganized or a tax settlement board should be created immediately, so as to enable the department to secure final settlement of old cases. If the assessments claimed by the government are valid they should be collected without delay. If they are not proper they should be abated and disposed of in order to relieve business and industry of uncertainty. As long as these cases are pending they constitute a menace to business prosperity and the return of normalcy will be greatly retarded.

It also seems wrong for the government budget to show a deficit while large incomes from tax exempt securities bear no part of the tax burden. The magnitude of the loss to the government on account of the tax-exempts cannot be easily estimated, but it is certain that taxpayers are compelled to bear an enormous added burden on account of the fact that capital and income represented by these securities share no part of the cost of government. If the statute of limitations is allowed to run against back taxes which the government is now legally entitled to collect, and if no provision is made to limit the growth and volume of non-taxable and non-productive wealth, whereby certain classes are permitted to escape their full share of responsibility, the cost of government will continue to rest inequitably upon the capital invested and the masses engaged in productive enterprise.

## ANNOUNCEMENT

**T**HE American Mining Congress desires to develop a closer cooperation between the mine operator and those firms interested in the furnishing of mine supplies, equipment and machinery. This policy is based on the belief that the continued maintenance of the mining industry is largely dependent on the further development and utilization of cost-reducing equipment.

The development of the work of the Standardization Division, of the Annual Expositions of Mines and Mine Equipment, and the formation more recently of the Manufacturers Division of the American Mining Congress are all a part of this general policy.

In line with these developments it has been decided that in the near future all matters relating to advertising in the Mining Congress Journal will be handled directly between the Advertising Departments of the concerns and the salaried officials of the American Mining Congress. Direct contact and relationships between the organization and the firms interested, will, it is felt, be of mutual benefit and will enable the organization to more effectively serve its advertisers.

Cooperation is the key to success, and the adoption of this policy of direct relationship in regard to advertising is not a reduction on the merits of any previous arrangement but is merely a step forward in the development of a more direct cooperation between the constituent parts of the organization, thereby making possible a more effective service.

## A WESTERN MINING CONFERENCE

**A** RESOLUTION recently adopted by the Northwestern Mining Convention at Spokane favors the calling of a meeting of the mining men of the west for the special purpose of considering the merits and demerits of the Denison Blue-Sky Law. It was first proposed to hold this meeting at Salt Lake City. The Utah Chapter of the American Mining Congress suggests that this meeting be held at Denver and the three Colorado mining associations have unanimously approved the suggestion of the Utah Chapter and have requested the national organization to call the conference. As soon as the proper arrangements can be made such a call will be issued. The meeting will be held in Denver somewhere about the middle of June. All matters affecting the mining industries in the western states will have proper consideration in accordance with the request from Denver which is embodied in the following telegram:

Denver, Colorado, April 22, 1922.

"Reference your letter eighteenth. At meeting Directors Colorado Metal Mining Fund, Colorado Metal Mining Association and Colorado Chapter Mining Congress, resolution was unanimously passed that conference of representatives of mining industry in western states be held early in June and in response to suggestions of Utah Chapter preferably in Denver to consider all matters affecting mining industry in western states call to be issued by American Mining Congress.

## "BULKELEY WELLS."

The gold producer is particularly interested in the protection of the gold standard and is equally interested with silver, lead, zinc, and in fact all western metallic mineral producers, in any change which may be made in our mining laws. All are directly interested in every movement which makes more difficult the raising of funds for the development of prospecting mining enterprises. These reasons affecting directly, or indirectly, all western mining operators justify at this time a thoroughly representative conference of western mining men.

## A BASIS OF PROSPERITY

**N**OTWITHSTANDING the disturbed conditions growing out of the coal strike, there is a perceptible tone of improvement in nearly every line of business throughout the United States. World conditions are continually changing and whenever so bad that they cannot become worse changes must necessarily be for the better. The MINING CONGRESS JOURNAL is still of the opinion that there is great need for a "financial leader able to develop and forceful enough to make effective a plan looking to the stabilization of world finance." The editorial in the April issue of the MINING CONGRESS JOURNAL entitled "A financial leader needed" has brought many letters of commendation and a number of criticisms more or less constructive. Among these the following from the vice-president of the Irving National Bank of New York will be found of interest.

New York, April 24, 1922.

Dear Mr. Callbreath:

Agreeable to your suggestion, I have read the article in the Mining Congress Journal entitled "A Financial Leader Needed" and while I find it interesting I am disposed to believe that a great deal of the current talk along this line of thought is unprofitable. What we need is not a "leader" or a "plan" but a few hundred million leaders, each leading in his own particular affairs and each with a plan of his own, such plan to consist chiefly in staying on his own job, doing a full day's work and cutting out the elements which, because he does not understand them, may cause him to move in the wrong instead of the right direction.

Frankly, I am pretty well "fed up" with this World Plan of ours. We have had too much of it, have been placing too much dependence upon it, have spent so much time playing with it that we have been unable to look after simple possible things which, if properly looked after, would in cumulative effect land us in a position where we would be almost without a world problem.

We are making the perfectly human mistake of entertaining such immensely virtuous big intentions that we have no time for the merely man-size things. Business men and bankers and government officials are hitching all sorts of cheap "flivvers" to really first-class stars. It sounds fine, makes us believe that we are on a really big job and are getting somewhere, which, of course, as far as big plan development is concerned, we are not. The progress made since the armistice has been the result of a great many people pecking away, each one at his particular task. The big plans evolved appear to be sojourning with the flowers of yesterday and the other delightful things which once were but are not.

One of our troubles is that we are slow in getting attractive things out of our system. First, it was world rehabilitation, with U. S. up in the front seat driving, cracking the whip, having a perfectly lovely time, determined to save the world situation whether it wanted to be saved or not. We had the very best of intentions but it seems that we have cooled off considerably on this ambition in spite of what the public speakers say. Then came the financing of our export trade, which was the world rehabilitation thing boiled down somewhat. In this the Hundred Million Dollar Foreign Trade Financing Corporation, with the other less pretentious activities attempted under the Edge Law, played the leading part. These plans were good but they have made only indifferent progress. Some of them have dropped out altogether. Running right along with these were a number of other rather audacious plans, all aiming at a better condition of affairs for the fellow on the other side who is supposed to have our goods. What has become of all these plans? We hear almost nothing of them nowadays. Apparently they were all wrong fundamentally, which I don't believe for a moment, or else the situation was not ready for them. In any event, none of them seems to have worked.

It would be easy to call attention to a number of other big plans, consideration of which has taken up a great deal of perfectly good time during the past two or three years. They have not worked. Progress has been made, great progress, but not because of any big plan, and certainly not because of any conspicuous qualities of leadership which have been developed. People everywhere simply have settled down to saner things, have gone to work, have learned how to save again, have looked after their own affairs instead of the other fellow's, with the result that not only have their own affairs

been much improved, but the other fellow also has come in for a substantial share of the benefit resulting. As for the big plans, I am unable to find where they have accomplished much of anything, with the possible exception, of course, of the Disarmament Conference in Washington, if we can refer to such a spontaneous thing as a plan or the result of a plan.

I am not worrying about our gold surplus. It might help to spread it about the world somewhat, but none of the plans which thus far have been proposed for this purpose seem to show how such spreading about can be accomplished arbitrarily without a very considerable disturbance of things.

The important fact, it seems to me, is that conditions are improving generally throughout the world. People are producing and saving and investing carefully and liquidating, and really getting somewhere. If you look back over the period since the armistice and recall the apparently insuperable difficulties which confronted us from time to time, you will be almost amused to see how easily these difficulties were handled. Not all of them have been removed, it is true, but we are going ahead, as rapidly, I believe, as is consistent with safe progress.

I suppose, of course, that the explanation of it all is in the fact that things always seem clearer on the back track than up ahead.

Sincerely yours,  
(Signed) G. A. O'REILLY,  
Vice-President.

We fully agree with Mr. O'Reilly that conditions are gradually improving and that much has been accomplished without definite leadership, but this relates principally to the developments in our own country. Throughout Europe economic recovery is still being retarded by the chaos of currency which resulted from the war. It is stated that approximately five hundred million dollars has been loaned or invested by Americans in Europe during the past year. European bankers do not believe that this money has been invested either wisely for the investors or in such a way as to bring about the greatest advantage to European industry. Europe's greatest problem is to stabilize its currency upon the gold basis. It is believed that this cannot be fully accomplished until Europe has the advantage through credit relation or otherwise of that part of the world's gold reserve which this country now holds in excess of its usual allotment. The N. Y. Journal of Commerce deplors the fact that:

"instead of seeking to conserve our entire fund of gold for the purpose of devoting it to some constructive use in the restoration of foreign monetary systems we are now endeavoring, under a new Treasury policy, to force the metal into circulation among the people of this country by paying it out in the form of coin and certificates to any who are willing to take it and use it. On the other hand, we have until recently sought to impede the return movement of gold out of this country."

In the meantime chaos still reigns throughout Europe. Trade balances have been shifted until the United States is a creditor nation to the vast amount of more than twenty billion dollars which it will take many, many years to liquidate by the usual and normal processes.

Necessity for a stabilized currency throughout the European countries is so great that unless gold in sufficient quantity can be secured these countries will be forced to adopt some other standard of value. This pressing economic demand throughout Europe is being aided and abetted by numerous anti-gold standard theories which are being developed in this country among which are the proposal of Professor Fisher for a currency based upon the average value of commodities as shown by the statistical index of current prices, in other words, a rubber yard stick which makes the value of gold fluctuate in proportion to the rise and fall of average price levels and the equally silly though less dangerous proposal of Henry Ford to issue currency based upon the unharnessed power of the Tennessee

River. Such propaganda make it incumbent upon the conservative thought of America to give greater consideration to the dangers which now face the gold standard at home because of too large a stock and abroad because of too small a stock of gold. The MINING CONGRESS JOURNAL still believes that a financial leader is one of the greatest needs of the world.

#### WHY THE COAL STRIKE?

THE PUBLIC mind is beginning to appreciate that the issue involved in the coal strike is not whether or not an agreement to meet in consultation was violated but that much deeper and more important issues were involved. The refusal of the operators in the central competitive field to agree with the miners upon a wage scale was fully justified by the facts because in violation of the injunction issued by the Federal District Court of Indiana. Notwithstanding this statement, the Mining Congress Journal believes that the operators should have met with the miners in accordance with the contract notwithstanding the abrogation of the contract by the miners and at such meeting should have refused to violate the injunction by effecting any agreement, but whether this should have been done or not is purely a matter of judgment, because such meeting would have been purely a matter of form.

It would have been foolhardy for these men to have again violated the injunction of the court while still facing trial for the first alleged offense. It is idle to say that Attorney General Daugherty had advised that he would not consider such a meeting a violation of the law, even though this conclusion seems to have been accepted by the public mind. This grows out of a misconception of the functions of the Attorney General. The name "Department of Justice" is a misnomer. Justice is dispensed by the court. The Department of Justice, the Attorney General's office, is the legal adviser of the executive departments and the prosecutor of violations of the law. Its function is to prosecute and advise but not to judicially determine. The writer recalls the meeting between the Indiana bituminous coal operators and the Department of Justice in April, 1915, when the issue was considered which recently has been under discussion between Secretary Hoover and Attorney General Daugherty with reference to the application of the Sherman anti-trust law to trade associations. This conference was held after the Federal Trade Commission had advised the operators of its inability to assist them in their difficulty. Then Assistant Attorney General Todd, of the Department of Justice, expressed very great sympathy with the operators and a sincere desire to assist them but finished his remarks with the statement that while he was disposed to render every possible assistance to enable the coal operators to escape from the results of the bitter competition which was ruining business, at the same time, as he stated: "You must remember, gentlemen, that the Sherman anti-trust law is still upon the statute books and it still remains the duty of the Department of Justice to enforce its provisions." One of the impelling reasons why a four-state conference could not be held was that it was under the direct ban of the federal court and any violation of the Attorney General to the effect that such a meeting would not be unlawful, comes with it no immunity from prosecution by some attorney general who may be in office at some later time. Failure of the operators of the central field to meet may have been a blunder but that is not the issue involved in the present coal strike. Those who attempt to make it so appear only seek to belabor the real issue.

**SHALL IT BE SILVER?**

**C**ONTRARY to outside expectations, silver production under the Pittman act has not made the anticipated increase. Westerners know that mineral production cannot be made to respond quickly to an increased demand. Much of time and money are required to reopen an abandoned mine. The short time promise under the Pittman act has not justified the expense of opening mines, except where very early production was possible. Operations looking to future output are not justified in the face of the apparent drifting away from the use of silver as money. Some European countries are now making subsidiary coins from bronze and other metallic substances. The silver coinage of Great Britain has been debased from 925 fine to 500 fine, thus releasing about fifty million ounces of silver from its circulating medium.

Notwithstanding these presently discouraging symptoms, the future of silver gives great promise if intelligently directed. The growing civilization of the vast populations of the Far East will develop an enormous demand for some metallic medium of exchange. Shall it be silver? Every argument supports an affirmative answer. And yet, a different result may obtain unless this country shall utilize its great financial power in assisting Europe to balance its budgets and stabilize its currencies.

The whole civilized world is interested in a solution of these problems, but silver producers have a double interest and therefore may be naturally expected to lead in discussing the subject. No western problem is of greater importance, and it is hoped that the Denver conference may inaugurate some definite plan of action.

**UNWORTHY OF NOTICE**

**U**NFORTUNATE and ill-advised "discussion" of "The Problem of Depletion" appears in a recent issue of a leading mining publication. In this discussion the law and regulations as well as the administrative organization of the Bureau of Internal Revenue were strongly criticised.

The writer of the article apparently was not familiar with the history of the depletion clause for he states: "that some lawyer Congressman had it in his head, but could not say it," when, as a matter of fact, both the law and regulations represent the result of years of study by leading mining engineers and accountants brought together from every branch of the mining industry to assist the government in working out proper provisions to meet the peculiar conditions and characteristics of mining.

Such criticisms can have no good effect, while there is every possibility that they may be harmful, especially as this subject has been under fire in Congress every time the revenue law has been under consideration. Mining publications should take warning against the publication of matter received from a biased source which might easily prove seriously detrimental to the whole industry. The criticism of the bureau organization is so flavored with personal feeling as to be unworthy of notice.

**A SIX MILLION DOLLAR DAILY STRIKE LOSS**

**I**T IS ESTIMATED that 685,000 coal miners are now on strike and that this involves a loss of approximately six million dollars daily. As much as this great loss is to be deplored it is very small as compared to the loss to the nation's earnings while business is being retarded in anticipation of a normal price level. In nearly every other line excepting transportation railway service and coal mining wages have been reduced in some instances to a point below that which we believe should be the basis of future level. Transportation costs are largely made up of railway and coal miners' wages. Until these two wage levels have been reduced to a proportionate basis it is needless to hope that business will again reach that prosperous level which is warranted by past experience. The annual earning power of the nation is estimated at fifty billion dollars. The best estimate obtainable indicates that the nation's present earning capacity is somewhere from 65 to 75 percent of normal. Assuming that 75 percent is the correct estimate the national loss per year amounts to approximately twelve billion five hundred million dollars or more than forty million dollars daily. This is the loss which the nation is sustaining while it is waiting for organized labor in the railroad and coal mining world to recognize the fact that war wages cannot be continued while war prices subside. Instead, therefore, of bemoaning the fate of the coal miner who is losing six million dollars in wages because of his determination to circumvent the law of supply and demand, let us extend some sympathy to the nation at large for the losses which it sustains in order to permit the organized worker to strengthen his strangle hold upon the American public. As a matter of fact, all of these figures are more or less ridiculous. So long as there is an ample supply of coal available for all those who desire to use it there is no loss to either operator or miner except as the situation prevents that condition which brings about an increased use of coal; whether all the mines are idle six weeks or half of the mines are idle twelve weeks, the result is the same in the general economy of business. As a matter of fact, the full earning power of the nation is never completely utilized. Even in war times when there was extraordinary demand for all service many coal miners finding that their wages for three or four days per week was sufficient for their needs refused to work the balance of the time. There never has been and never will be a complete utilization of all of the man power of this or any other nation. In fact, the human race can perform all the service that is necessary without employing its full time. The observance of the Sabbath reduces the working time of the nation practically one-seventh or a reduction which if utilized might add one-seventh to the nation's 50 billion dollar annual earnings. The observance of the Saturday half holiday if universally applied reduces the working time one-twelfth, a reduction of annual national earning capacity of better than four billion dollars. If from the tribulations of the strike shall come a complete settlement of industrial differences and upon a par with those which obtain in other lines of industry, if the right of men to work and provide for their families independent of union control shall be demonstrated the loss of time will be fully justified.



## WESTERN MINING CONFERENCE TO CONSIDER PROBLEMS OF HIGH CURRENT IMPORTANCE

**U**RGENT DEMANDS that immediate consideration be given vital problems confronting the mining industry of the west have resulted in a call being sent out by the American Mining Congress for a meeting of the industry's representatives at Denver, Colo., early in June. Foremost among the subjects which will be discussed by this conference will be the proposed revision of the mining laws, and pending federal blue-sky legislation.

Resolutions that a meeting of this nature be held have been passed by representative mining associations in the west. Such action was urged at a conference held by the Colorado Chapter of the American Mining Congress, the Colorado Metal Mining Fund, and the Colorado Metal Mining Association, and also at a recent meeting of the northwest mining men.

The Denison bill, proposing a federal blue-sky statute covering interstate transactions in securities, has been made the subject of comparatively speedy action in the House, reaching the floor much sooner than is usual in the case of measures of other than broad general interest. Having been favorably reported from the House Committee on Interstate and Foreign Commerce, it was brought out on the floor on April 25 by means of a special rule which limited debate and set the vote on the measure for April 27.

Hearings were scheduled on the mining law revision bill before the House committee on mines and mining, to begin April 27, with engineers who drafted the measure likely to appear as the first witnesses.

Expressing "unalterable objection" to the Denison bill and similar measures, the 150 mining men of the northwest who considered the subject at the mass meeting recently held in Spokane adopted a resolution for presentation to their representatives in Congress.

Speakers who addressed the meeting, before which the Denison measure was branded as "vicious" legislation of interference, included ex-Senator George Turner, ex-Governor Marion E. Hay, Dr. Henry Mace Payne, Sidney Norman, editor of the *Northwest Mining Truth*, and W. W. Gail, of the *Billings Gazette*.

The resolution follows:

"Resolved: By mining men of Spokane and the northwest, in mass meeting assembled at the Chamber of Commerce Assembly Room on this the 21st day of March, 1922, following analysis and discussion of the Denison Blue Sky Bill, now before the House of Representatives, that the congressional representatives of all states in the northwest be notified immediately that in the opinion of the meeting adoption of the measure would lead to graft in administration and irreparable injury to the mining industry in this and other sections of the west, largely dependent upon it for prosperity. They particularly condemn that section of the bill conferring the exclusive national hallmark of respectability upon the stock exchanges of New York, Chicago and Boston and point out that it would inevitably result in further concentration of wealth in the large financial centers of the country and corresponding diminution of the financial strength of such communities as Spokane, Denver, Salt Lake City and Butte, all more or less sustained by mining enterprises. They call upon their representatives in Congress to oppose the measure as unwise, unnecessary, thoroughly disastrous in its scope, and particularly opposed to the best interests of the west."

### MINING LAW REVISION IS SUBJECT OF HOUSE COMMITTEE HEARINGS

**T**HE INCEPTION of legislation proposing revision of the federal mining laws, and the theories upon which this proposal is based were outlined to the House Committee on Mines and Mining by Director H. Foster Bain, of the Bureau of Mines, and W. R. Ingalls, New York, chairman of the committee which prepared the bill, at hearings held April 27. Further hearings are scheduled to be held early in May when H. B. Winchell, another member of the drafting committee, probably will present his views.

Questions addressed to Dr. Bain and Mr. Ingalls indicated that members of the committee are not in favor of the bill in its present form.

So much criticism has been directed against the measure as it now stands that the committee has determined to mould the bill to eliminate objections if it is to be enacted. Chairman Rhodes stated that the House Committee would probably report the bill unfavorably unless modified. He said sentiment is about equally divided, and it is a close question as to which side presents preponderating evidence.

Director Bain explained the inception of the bill, stating that the present mining laws should be codified and revised so as to give the courts and the Department of the Interior a new law to meet the development of ore deposits that were unknown when the present laws were made. In reply to Chairman Rhodes, he said the pending bill did not have his unqualified support since certain details should be changed to meet opposition.

Chairman Rhodes questioned Mr. Ingalls on the basis of protests received by the committee against the bill. Mr. Ingalls was not aware of change of sentiment in mining regions since the bill was presented a year ago. Asked as to whether the measure reflected the majority view of all engaged in the mining industry, Mr. Ingalls said the presentation of the bill was for the purpose of eliciting criticism and that such criticism as had lately developed was not different from that presented during previous consideration of the proposition.

### ASSESSMENT WORK EXTENSION LAW INTERPRETED BY OFFICIALS

**O**FFICIALS in Washington are receiving letters daily from holders of mineral claims who are not certain of the correct interpretation of the law passed by Congress last August, extending the time limit for completing assessment work on claims.

Two simple statements clear the situation:

Assessment work for 1921 need not be completed until July 1, 1922, relocation still not being necessary.

Work for 1922 need not be completed until July, 1923, since the date upon which work for 1922 should start is advanced from January, 1922, to July, 1922, under the law of last August which shifts the period from the calendar to the fiscal year. The old law stipulated that the period for assessment work should begin upon the first day of January succeeding location.

Claims located after July 1, 1921, and before July, 1922, have until July 1, 1923, in which to complete work without being subject to relocation.

Claims located after July 1, 1922, and before July, 1923, have until July 1, 1924, in which to complete work.

A previous law extended the time for 1920 work from December 31, 1920, to July 1, 1921.

# LATEST COAL REGULATION BILL PROPOSES SYSTEM TINGED WITH UNCONSTITUTIONALITY

**E**FFORTS to stabilize the coal industry by means of legislation providing for any government activities tinging in the least of regulation scarcely can avoid coming under the ban of unconstitutionality.

Advocates of Federal action seeking to stabilize the industry hit upon the scheme of having Congress create an investigatory agency. This agency, to function as its proponents desire, would have to be clothed with all power possessed by Congress as regards investigation of industrial conditions. It would have to be able to "go a-fishing" for violations of the law. To secure the results which its creators would demand, it would have to conduct other investigations than those which are inspired by some specific complaint or actual evidence of the probability of unlawful action in a designated case. The best of authority holds that Congress does not possess the power to endow any agency of its creation with these high powers. And, without possessing them, no governmental agency could tear into the vitals of the coal industry as demanded by those who are calling constantly for stabilization.

These facts have been brought to the attention of Congress at a most opportune time through testimony presented to the House Committee on Labor during its consideration of the Bland bill, which proposes to establish a special agency endowed with a broad range of power to investigate the coal industry.

Chief Counsel Farrell, of the Interstate Commerce Commission, tossed these and other legal bombs into the camp of the stabilizers during his testimony before the committee last month. Called before that body because of his long and intimate experience with the legal intricacies involved in governmental relations with an industry doing an interstate business, he drew upon a remarkable knowledge of the law to point out the impracticality of attempts to push the government's nose into the operations of a private industry when direct evidence of a violation of the law does not present itself, or when other specific grounds for action are lacking.

Mr. Farrell quoted a decision of the Supreme Court which held as illegal those attempts which were made by the Interstate Commerce Commission to ferret around in the affairs of a railroad company when direct causes for this action were lacking. The ruling of the court was that questions could not be asked at random of an industry or its members by a government agency, holding that possession of such authority would result in creation of "autocratic power." He declared that there is a well-defined line between data-gathering activities and those which are regulatory.

Taking up proposed efforts to eliminate over-development of the coal industry by prohibiting the interstate transportation of coal from mines deemed to be superfluous in their production, Mr. Farrell expressed his doubt of the ability of the government to proceed along these lines. Interstate transportation of the coal could not be barred unless it could be proved that the coal either is harmful to the public health or comes under the only statutory provision that is prohibited from interstate movement—that of immoral material.

Representative Bland, author of the bill under discussion, suggested the possibility that interstate transportation of coal might be prohibited legally in cases where producers refused to furnish information desired by the government, declaring that this action might be considered as a means for a harm rendered the public be-

cause of the jeopardizing of its comfort through the possible injection of a lack of stability in the industry. Little comment was made upon this suggestion since the general impression seemed to be that it was far-fetched and impractical.

Representative Meyer London, New York, a member of the committee, interposed the testimony by asking Mr. Farrell if he knew of any authority granted the government to prevent over-development of any industry or if any legislation ever had been enacted granting a government agency the right to "stabilize" an industry. The witness replied that there were no such precedents, so far as his knowledge extended, declaring that consideration of such actions involved "ploughing over new ground."

Apparently realizing that his bill possesses constitutional weaknesses, Mr. Bland asked the witness for his opinion of a novel scheme to furnish the measure with strength to survive a test before the courts. The congressman asked if the bill would be helped by disguising the investigation as a government attempt to see that the Navy and residents of the District of Columbia received their coal at fair prices, seeking thus to circle around the entire question of interstate and intrastate authority of the Federal government.

Mr. Farrell answered that such a bill would be constitutional and the proposed investigations legal, providing, however, that there was no "ulterior motive" behind the investigation. He stated that if the investigation were in reality intended for any other purpose by Congress than the one set forth obviously in the text of the measure authorizing it, the courts would rule it as illegal. Questioned as to whether the court would have the right to seek out the real motive for the investigation, he stated that it would, since the motive would be an issue in the case.

## FAVORS GRANTED TO LABOR AND FARMERS ARE REFUSED MINING INDUSTRY

**C**HARGES of "class legislation" raised in the House against an amendment to the Department of Justice appropriation bill, providing exemption from anti-trust laws for labor organizations and farmers' associations, failed to block adoption of the amendment, though it was approved by a margin of only one vote, the count being 27 to 26.

Opposition to the amendment was raised by Representative Husted, New York, who offered an additional amendment which would have extended the exemption to include producers of mineral products and associations of producers of mineral products. Mr. Husted's amendment was rejected, but not before it had become the subject of some debate.

Replying to Representatives Moore, Virginia, and Johnson, Kentucky, author of the accepted amendment, Mr. Husted stated that the purpose of his amendment was to protect any organization of coal producers from prosecution. He branded the Johnson amendment as the rankest kind of class legislation, stating that he desired to emphasize this by introduction of his amendment.

The Johnson amendment in effect was retained in the measure as reported by the Senate committee on appropriations.

# U. S. MINT SERVICE REDOUBLES EFFORTS TO PREVENT PURCHASE OF STOLEN ORES

**S**PECIAL PRECAUTIONS are being taken by the U. S. Mint Service to prevent purchase of stolen gold and silver by the government from high-graders whose operations recently have been brought to the attention of federal officials.

F. E. Scobey, newly appointed director of the mint, in a letter to mint service institutions west of the Mississippi River, has issued instructions that every possible effort be expended toward detecting and securing the apprehension of those who are engaging in the practice of stealing high-value ores from mining properties and selling them to branch mints by misrepresenting the source.

Mr. Scobey's instructions, which were issued immediately after conditions were called to his attention by members of Congress and the American Mining Congress, may be extended to apply to those branches of the mint which are located in the eastern part of the country, since it is felt that high-graders will not hesitate to transport their loot across the country in their efforts to dispose of it, as they have been known to do in the past.

The text of the communication which was addressed by Mr. Scobey to superintendents of the western mints follows:

"The bureau is informed by mining interests in the West that owners are satisfied they are suffering loss through high-graders, and it is possible this stolen metal is reaching our institutions.

"This letter is being written to you for the purpose of suggesting that you take every precaution against receiving stolen metal. In order that our service may aid in every way in detecting and preventing high-grading I would suggest that you instruct employes in your institution who handle deposits to exercise the utmost care in obtaining the name and address of the depositor, and the source of the metal. If you have occasion to suspect the integrity of any party I think it advisable to allow the Secret Service to investigate before making payment for the bullion.

"I need hardly request that in exercising this discretion you use every precaution not to unnecessarily interfere with the transaction of business of bona fide depositors."

Possibility exists that a measure will be presented to Congress within the not distant future, having as its aim the establishment of high-grading as a Federal offense and therefore one which will enable the calling in of Federal machinery to aid in its detection and preven-

tion. This action, if taken, will be inspired mainly by the statement of William J. Burns, director of the bureau of investigation of the Department of Justice, in which he has pointed out that his organization is "powerless to act in any matters which do not involve an alleged violation of existing United States statutes."

An interesting communication, passing between two members of the mining industry who have been devoting a great deal of attention to this particular problem, is quoted in this connection. Speaking of the proposed legislation, it reads as follows:

"I know that this is a mighty good proposition and something which should have been taken up by the mineral industry long ago. I note that the suggestion for legislation is confined to the sale of gold, silver, etc., to the United States mints. My idea would be to have the proposed legislation much more comprehensive. I would include the sale, not alone to the mint, but to any smelting or refining company."

It is being pointed out that jurisdiction of the Federal government over such sales might be based upon the idea that most of the gold and silver originates in mines which were or are a part of the public domain and also the general control which the Federal government necessarily exercises, over gold and silver currency.

Those who are stressing the necessity of a Federal statute covering high-grading place emphasis upon the point that "it is very difficult, if not impossible, to secure the conviction of a high-grader by a local jury, even when he is 'caught with the goods,'" to use the language of one prominent mining man.

The difficulty in securing Federal legislation of this type, according to close observers in Washington, is found in the very unusual and rather infrequent character of the crime in question, and also in a general tendency found in Federal legislative circles to trust to the laws of individual states to care for the prosecution of those offenses of local nature which arise within their boundaries.

Particular attention has been given this subject for many years by William Edward Colby, of San Francisco, an attorney who made strenuous efforts to secure a remedy for the evil. In discussing the situation, Mr. Colby recently said that "an act of Congress covering these conditions is eminently desirable, because, if the theft can be made a Federal crime, it will take these prosecutions out of the local jurisdictions, where redress is impossible, and put it in the hands of the Federal



TEMPTING FATE

government, which acts with greater vigor and commands greater respect.

The instructions sent out by Director Scobey come as the immediate result of communications addressed to him by the American Mining Congress, coming simultaneously with requests for action made by western senators and congressmen, notably Senator Samuel D. Nicholson, of Colorado, reflecting the conditions as portrayed by members of the mining industry who have been suffering from the operations of high-binders, particularly those in Colorado, Nevada, and California.

#### FIRST OF DEFINITE REQUESTS

One of the first definite requests for action of this type came recently from the California Metal and Mineral Producers' Association, which, through its board of directors, sought the advice of the American Mining Congress in bringing to the attention of the proper authorities the "hardship suffered by miner operators in not being able to trace, detect and punish persons who came into the unlawful possession of gold and silver, gold and silver ore, bullion bars, nuggets, dust and amalgam and sell the same to the branch mints."

Stating that the theft at one of the gold mines of the association of amalgam, valued at over \$50,000, and of the difficulties with high-graders at the California Rand Silver, has brought about the agitation of this matter, the organization's communication points out that the affidavits required under the Pittman act have to do with the origin of the ore and are not penal statutes having in contemplation the punishment of those stealing the ore.

This difficulty is one of long standing, as is well known to mining men. In the prosperous days of Cripple Creek it was estimated that more than a million dollars' worth of gold was stolen annually from the mines, which, through various channels, got into the United States mints, being purchased by the government. After a time a statute was passed by the State of Colorado which made difficult the sale of such property to the Denver mint, this law requiring that those engaged in the business of producing, purchasing and receiving for sale of gold and silver in their various forms take out licenses authorizing their activities.

#### CARRIED TO WYOMING

After the enactment of this law, those ores stolen from the Cripple Creek mines were carried through to Cheyenne, and from that point shipped to the mints at San Francisco, usually by persons using fictitious names and addresses, and giving the State of Wyoming as the source of production.

It was alleged that during twelve months of the years 1920 and 1921 ore of this character to the value of \$115,944 had been sold to the government mints upon allegations that it was produced in Wyoming.

Detectives recently employed to trace gold stolen from a California mine found that it was sold at the San Francisco mint. Those who sold the ore gave an address in a small Wyoming town as that of the office of the company which had mined the ore. Investigations which were carried further brought to light a situation which has been found to be typical of those surrounding cases of this type, which have been uncovered. The address was found to not be that of a mining company's office. Instead, it was the site of a prospering near-beer "saloon" which had been doing business on the spot since the first days when the eighteenth amendment was placed in effect.

Judge E. A. Colburn, of Denver, president of the Cripple Creek Mine Owners' Association, several years

ago was largely instrumental in securing adoption by the State of Colorado of a law having as its aim the elimination of high-grading operations, in a recent letter discusses the situation as follows:

"The experience of our association, and our activities not only embrace all of Colorado but several other states, is such, in unearthing the channels through which thieves, crooks and high-graders operate, that we have discovered that the United States mints are the final 'fences' which are used in these nefarious practices. This most certainly demonstrates to us the great necessity for curbing, so far as can be done, through the United States mints, the unlawful traffic now existing."

#### LEASING OPERATIONS NOT COMPETITION WITH INDUSTRY, SAYS FALL

INDUSTRY should receive assistance not competition, from the government, Secretary Fall told the conservation conference of the Natural Gas Association of America in which producers and distributors of both the Mid-Continent and Eastern fields met at the invitation of the United States Bureau of Mines to establish closer cooperation between the industry and the federal government in their efforts to promote among the 2,500,000 consumers a more economical use of natural gas. Secretary Fall promised the active cooperation of the Department of the Interior in every possible way.

"It is the duty of the government to go just as far as it can in assisting our industries and certainly it is the duty of the Department of the Interior, as I understand it, to help you in developing the natural gas industry," Secretary Fall said. "I do not want the government in competition with any of its business men. The government is in business despite itself in oil and gas to some extent under the leasing law, but we endeavor to conduct that so as not to compete with, but to assist those engaged in the development of the industry."

#### MINING INDUSTRY ASKED FOR OPINIONS ON INTERNATIONAL TRADE DATA

A DIRECT request has been addressed to the American Mining Congress by the Bureau of Foreign and Domestic Commerce of the Department of Commerce, asking that information be compiled setting forth the requirements of the mining industry for statistics of international trade and production. In making this and similar requests which are being addressed to associations representing the various industries of this country, the bureau is cooperating with the International Chamber of Commerce in an effort to bring this matter squarely before the attention of as many business men as possible.

In a letter to J. F. Callbreath, secretary of the American Mining Congress, H. C. Morris, chief of the fuel division of the bureau, says:

"I believe that the subject merits your earnest attention and that of your membership, and others who you think can assist us in collecting suggestions and definite recommendations for the guidance of the International Chamber."

# STANDARDIZATION OF OUTSIDE COAL HANDLING EQUIPMENT

By DR. HENRY M. PAYNE\*

**N**O BETTER definition can be given of the field in which this committee finds its opportunity for service, than is found in the letter of Mr. P. G. Beckett, appearing on page 673 of the *MINING CONGRESS JOURNAL* for April. He says:



"The whole question appears to be largely one of eliminating wasteful practices and eccentricities; standardizing equipment and certain methods in each mine or group of mines under one management; the avoidance of expense connected with unnecessary, numerous and complicated types; the promotion of competition in the manufacture of certain designs, and the reduction in cost of manufacturing and operation.

"In other words, good practice under differing conditions rather than general standardization."

Much of the inertia which standardization is compelled to overcome is due to a fear of overstandardization on the one hand, and a lack of comprehension of the many opportunities and accruing advantages on the other.

It is only a generation ago that proponents of standard time belts in the United States were held up to ridicule. Many of the older mining men recall the conflict between the broad and narrow gauge railways and the adoption of "standard gauge." The introduction of interchangeable car couplers, uniform types of valves on bicycle and automobile tires, loose leaf systems of accounting, filing and indexing, and during recent times the elimination of many odd sizes of automobile tires, are all events in the onward movement to restrict multiplicity of type and useless variation.

More knowledge is not power; but the ability to utilize scientific fact and to apply this capacity to the elimination of waste and the decrease of operating cost, makes for efficiency. Every coal mine operator knows the inconvenience and the expense of carrying in stock or securing parts for equipment built along special lines. Every competent purchasing agent has learned that it pays to buy standard sizes of pipe, pipe fittings, flat and round iron, shovels, and so on down the seemingly interminable list of regular supplies. The same idea carried to its logical conclusion will include shafting and pedestals, belt and gear combinations, drives of all kinds, conveyor and other link chains, electric fittings, etc.

Many of these items are under consideration by standardization committees of the American Society of Mechanical Engineers, the American Society for Testing Materials, and similar organizations, and the corresponding committee of the American Mining Congress is working in close harmony with them through interlocking membership, to avoid duplication and to bring the widest possible discussion to bear on these problems.

In connection with outside coal handling equipment, the safety movement is closely allied. The use of safety blocks, or stops, on inclines, car retarders on grades, automatic gates on cages used for hoisting or lowering men, and safety devices on counterweighted loading booms, are all susceptible of simple, practical uniformity.

the advantages of which will not only effect a saving in cost of installation and maintenance, but will serve through daily use to familiarize the men working around them with standard practice and habits of safety.

The National Safety Council, the United States Bureau of Mines, the various coal rating bureaus, and many large corporations are jointly working on these and other items, and most of the large mines are equipped along uniform lines, without any sacrifice of individuality, or repression of inventive genius. On the contrary, by eliminating the unsuitable and inefficient, and by classifying various types of operations with their corresponding grades of equipment, a wide choice is still left the individual operator, but the elements of construction entering into those items are largely common to all in certain recognized sizes of component parts.

Thus the unfit becomes obsolete, a uniform standard of performance is established, individuality of design is still permissible, and diversity of unit parts is avoided. Many items of outside equipment, such as brakes, frogs, switches, etc., are common to inside equipment. These are being handled by the Committee on Inside Equipment. Operators and manufacturers alike are exerting every effort to eliminate odd and rarely required sizes, realizing that the widest latitude may be allowed every operator as to the wheel base, size of body, etc., of his cars and motors, and still many of the fittings and general features may advantageously be standardized without detracting an iota from individuality of design or efficiency in operation. The Canadian Engineering Standards Association has prepared standard general specifications for wire rope for mining, dredging, and steam shovel purposes, which are now under our consideration. These specifications provide and define three recognized grades of material for wire rope—crucible cast steel, plough steel, and special plough steel. Ranges of tensile strength are given for each, and certain micrometer limits of diameter for the wires are set. The central core and the cores of the several strands, unless of wire, must be of Manila or New Zealand hemp and not of jute.

Certain standard sizes of strand and core, accepted by all the principal wire rope manufacturers, are indicated for the various haulage and hoisting speeds and loads. Thus many odd and certainly useless sizes of rope, sheave and drum, are avoided, and both manufacturer and consumer profit.

Uniform methods of cost accounting are recognized as essential in every competitive industry, in order that taxes, depletion, and profits or losses may be properly computed. This does not mean that a sort of uniform income-tax blank cost sheet shall be provided, but rather that certain standards of cost subdivision shall be followed in the allotment of items for comparative purposes. The same analogy is true in equipment.

One of the great economic wastes at the tipple, especially in anthracite coal, is the variety of sizes. The present method seems neither practicable nor profitable to operators, carriers, or distributors, necessitating

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larger retail storage facilities, and often resulting through market conditions, in a scarcity of certain sizes and a surplus of others.

Many tests have been made on mixed sizes and it is generally conceded that they are not only just as practical, but in times of scarcity may be more easily obtained.

At present there are eight trade sizes, viz: Broken, egg, stove, chestnut, pea, No. 1 buckwheat, No. 2 buckwheat or rice, and No. 3 buckwheat or barley. Of these, stove and chestnut constitute 40 percent, and broken and egg 21 percent of the total demand. The smaller sizes come in competition with bituminous coal, and the demand for both large and small sizes is a seasonal one.

If the number of these sizes could be reduced, as is ardently desired by the operators, a considerable saving in cost would be effected.

Sub-Committee IV of Committee D-5, of the American Society for Testing Materials, and a corresponding Committee of the American Institute of Mechanical Engineers have made an extended investigation into this subject, in cooperation with the Outside Coal Handling Equipment Committee of the American Mining Congress, and as a result, the compilation of several hundred replies to a questionnaire sent out, would indicate that the present eight grades or sizes of anthracite could be reduced to four, to the advantage and satisfaction of both operator and consumer, viz:

Furnace, to include broken and egg.

Range, to include stove, chestnut and pea.

No. 1 steam, to include No. 1 buckwheat.

No. 2 steam, to include Nos. 1 and 2 buckwheat.

A similar reduction in bituminous sizes, especially in the Central Field, could well be made.

Another item which calls for careful study and united action toward unification is the code of signals in use at shafts throughout the United States. Bulletin 15 of the United States Bureau of Mines tabulates the various signals in use in the different states. In one state a certain signal calls for hoisting, while in perhaps an adjoining state the same signal indicates lowering. This can only make for confusion and added danger of accident.

As has been said, many of the basic elements of standardization are so closely allied to the safety movement that cooperation, rather than initial action is required. Like traffic regulations for automobiles, standardization has come to stay. With certain standards agreed upon, competition in design, and inventive genius will still be free, good practice under differing conditions will be established, and increased efficiency and safety will result.

### COMMERCE AND LABOR FUNDS

**A**PPROPRIATIONS for the Departments of Commerce and Labor for the year beginning July 1, are the first to be enacted by Congress and approved by the President. For the Department of Commerce \$450,000 is given for investigations of domestic and foreign problems relating to production, distribution and marketing of important export industries under which the department operates various commodities divisions. It provides also funds for the Bureau of Standards on structural materials, metallurgical research, tests of mine scales and cars.

### GOVERNMENT FOLLOWS SET POLICY IN TEA POT DOME AWARDS

**T**HE POLICY adopted by Secretaries Fall and Denby of drilling offset wells on naval reserves rather than to attempt underground storage was followed in action taken in awarding contracts for such wells on the Teapot Dome, in Wyoming, announcement of which recently was made.

Senator Kendrick, Wyoming, previously has introduced a resolution which was passed by the Senate, calling upon the Navy and Interior Departments for information relative to their methods of handling naval reserve drilling proposals.

The contract awarded to the Mammoth Oil Company, a new concern of which H. F. Sinclair, of the Sinclair Oil Company, is president, provides for the tapping of the Teapot Dome in naval reserve 3, with the government to receive royalties on a graduated scale ranging from 12½ to 50 percent.

In making the announcement, Acting Secretary of the Interior Finney said:

"For more than a year the Secretary of the Interior and the Secretary of the Navy have had under consideration the handling of the two naval reserves in California and the naval reserve in Wyoming, the latter known as the Teapot Dome, with the idea of working out a policy which would secure the greatest conservation and use for the Navy of the oils in such reserves, prevent drainage by wells of private owners and adjoining lands and secure to the navy an available storage of fuel oil at convenient points readily accessible wherever and whenever needed. It was found that oil was being drained from all of these reserves in very large quantities, amounting to millions of dollars of loss up to the present time by wells on adjoining lands and that in all probability within a few years the Government reserves would be depleted."

In discussing the resolution which he introduced, Senator Kendrick pointed out that no wells have been drilled to production which might drain the government reserves. Opposing the drilling and development of the naval reserve by contract with one corporation, the Rocky Mountain Oil and Gas Producers Association has protested on the ground that there is no present outlet or market for the present production of oil and that present production does not affect naval pools, also complaining against formulation of contracts for development of oil reserves by private arrangement without competitive bidding. The association's argument is capped with the statement that the proposed development and withdrawal of the oil is not in harmony with the purposes of the original withdrawal of the land or the policy of the leasing law.

Senator LaFollette, Wisconsin, has introduced a resolution calling on the Secretary of Interior for a list of all oil leases made by the department in California and Wyoming oil reserves, together with information as to their area and government royalties. He also calls for all executive orders authorizing or regulating such leases, and correspondence showing applications for leases and action by the department thereon. In connection with his resolution the Senator presented a letter from former Secretary of the Navy Daniels opposing leasing of government oil reserves.

# MINING INDUSTRY VITALLY CONCERNED IN PLANS FOR "LAKES-TO-OCEAN" WATERWAY

**H**EATED discussions of a subject in which the mining industry is vitally interested soon will begin to swirl in an unprecedented manner around the proposals to link the Great Lakes directly with the Atlantic Ocean. Statements by high administration officials that action is imminent which will have as its aim the negotiation of an international treaty under which the St. Lawrence River project may be developed have heaped coal upon the fire of differences which has been smoldering between advocates of that proposal and those who are sponsoring what is known as the 'All-American Route,' which would cut a waterway thirty feet deep from Buffalo through Lake Ontario to connect with the Hudson River at a point just below Albany.

The mining industry's interest in these proposals is found to rest in the fact that enormous percentages of its production of ores are mined in those states that are tributary to a Great Lakes-Atlantic Ocean waterway. Mine products to the forming high percentages of total outputs for the United States passed through the canal at Sault Ste. Marie, their values furnishing an idea of the vital manner in which the transportation of ores from the West to the Atlantic Seaboard would be affected were a direct waterway completed. The following are the values of various mine product shipments through the canal in 1920: Coal, \$119,000,000; iron ore, \$340,000,000; copper, \$18,000,000, and manufactured iron, \$6,000,000. In territory tributary to such a waterway are produced 85 percent of the total iron output of the country, 40 percent of the copper, 46 percent of the lead and 74 percent of the zinc.

Opposition and advocacy of each of the two proposed waterways have resolved themselves into a clean-cut controversy between the east and west. Eighteen western states, from Ohio on the East to Oregon in the West, have endorsed the St. Lawrence River project, either through acts of their legislatures or by declarations of their governors. Chief among the arguments which are being set forth by advocates of the St. Lawrence route are these: a shortening of the shipping distance between Duluth and Liverpool of 500 miles; extreme economy of water transportation as compared to overland hauling; elimination of unloading and reloading costs at New York and Buffalo; development of electrical energy which, it is claimed, will result in an annual saving of 50,000,000 tons in coal consumption.

Throughout the eastern sections of the country in which the praises of the "All-American Route" are be-

ing sounded, the following advantages are being pointed out by advocates of that project: "less politics-more patriotism"; a continuous depth of 30 feet; 90 percent of ocean ships can use it; "no tolls - no appropriations, only a federal charter wanted"; "our national defense provided for"; only 9 locks from Lake Erie to tidewater, and elimination of government participation in the enterprise.

The new tide of discussion concerning the two projects already has found its way to the floor of the Senate and recently resulted in a tilt between Senator Calder, New York, who declared expenditure on the St. Lawrence project would be a "fundamental injustice," and Senator Townsend, Michigan, who stated that "it does not come with good grace from representatives of New York to speak about expenditures of money for water im-

provements and oppose a proposition that will do so much good to the Middle West and the Far West." The two Senators also debated the issue of the comparative benefits which Canada would derive from the St. Lawrence project, it being Senator Calder's claim that Canada's share of these benefits would be greater than those which would come to the United States.

Regardless of which project eventually is undertaken, for it is a certainty that one or the other must be adopted in compliance with the demands of industry, close observers are forecasting the following results of completion of construction of a lakes-to-ocean waterway:

That an era of prosperity would be brought to the interior states which can come in no other way;

that the probability of commercial loss to Atlantic ports is so slight, while the prospect of commercial development and increased national wealth, considering the country as a whole, is so great, that objections are untenable; that the project will prove a boon to American industry, and will aid the development of the whole continent; that the commercial possibilities rival those of the Straits of Dardanelles; that the project is as essential to the growth and development of the United States as that outlet is to the life and commerce of Russia and the Near East; and that no public improvement in the history of America has, in advance of its actual development, offered greater constructive possibilities.

In attacking the proposals of their opponents, those who are favoring the St. Lawrence route do not hesitate to charge that New York State and neighboring territory is a "dog in the manger," declaring that the desires of shipping centers in that section of the country to retain their hold on transportation which they now



Hot debates on Capitol Hill are beginning to appear as a climax is being reached between advocates of the two proposals for connecting the Great Lakes and the Atlantic Ocean with a navigable waterway. The St. Lawrence project would achieve this result mainly by means of a canal cut around Niagara Falls, with the boats proceeding from this point along the St. Lawrence to the ocean. The manner in which it is proposed to link the Western states with the Atlantic Ocean by means of the St. Lawrence project is indicated on the above map by the dotted line. The black line with arrows shows the course proposed for the "All-American" route.

handle causes them to turn their attacks upon the northern route, which would carry the cargoes from the lakes through Canada, not allowing them to touch within the states through which they now are traveling overland.

Driving at the vitals of the opposition's plan, advocates of the "All-American Route" seize upon the proposed development of waterpower as their main weapon. This development, which is listed as a distinct asset by the St. Lawrence boosters, is heralded as an end which is being sought by private parties, who are using the navigation benefits of the route as a means by which to accomplish their ends.

Senator Poindexter, of Washington, recently delivered a speech on the floor of the Senate advocating the St. Lawrence plan. During the course of this address, he took occasion to analyze the international phase of the proposal, scouting the theory that Great Britain, in event of war with this country, might send her warships down the river to bombard our large cities on the lakes.

Discussing results which he said would arise if traffic passing through New York City were to be increased, the Senator said:

"The cost of handling traffic in New York is not going to be lessened by increasing traffic in this terminal. New York City and New York State will have their annual increases. Their shipping point will be New York City, as it ought to be, and if they improve their harbor and dock facilities sufficiently to keep pace with their own economic development, they will be doing well.

"But shall the vast agricultural, manufacturing and commercial interests of the Middle West and the Northwest, to say nothing of Canada, await the development of proper facilities in New York City?"

Under the title of "a bill to incorporate the Hudson Ship Canal Company," a measure intended to furnish the initial action for construction of the "All-American Route" was introduced in Congress on January 26 by Representative Reed, of New York. This bill, which was referred to the House Judiciary Committee, where it now rests, would constitute Millard F. Bowen, of Buffalo, and his associates as a public service utility, giving them the authority to "purchase, acquire, develop and operate" properties in New York State contingent to the proposed waterway, investing them with the power of the public domain and granting them the authority to use it in the name of the United States. Electrical energy to be developed by the project may be sold at the rate of one and one-tenth cents per kilowatt hour based upon full time continuous service, under authority which would be granted by the measure.

Discussing this bill and the project which it authorizes in an address delivered before the Rivers and Harbors Conference recently held in Washington, Mr. Bowen, who has been interested in the plan for many years, outlined its basis as found in a report submitted to President McKinley in 1900, data for which was worked up by engineers appointed by the Executive:

"The following are some of the economic advantages. Mr. Bowen told the conference, "which will result from construction of the 'All-American Route':

"Free navigation, national defense, comprehensive power system, reservoirs on all streams, floods stored and used, sanitation by stopping pollution, municipal water supplies, deep new harbors, terminals not congested, basic industries multiplied, electrification of railroads, aided by a one-cent per kilowatt hour rate, no appropriations, and the manufacture of nitrates with surplus power.

Mr. Bowen estimates that utilization of 317 out of a

possible 327 feet of total fall between Lakes Erie and Ontario will provide power which will yield \$53,890,000 annually, and that \$45,759,000 in addition will be secured annually from development of 700,000 horsepower between Ontario and the Hudson, the plan being to embrace a number of small plants in a super-power project.

"It is because of this showing," he states, "that small investors will seek to buy the 8 percent stock so based upon steady earning power; the charter will prohibit the issue of bonds or preferred stock. With a proper organization, after a federal charter has been obtained, it is reasonable to believe that workers and savers of small amounts will seek to increase their interest to 8 percent, and furnish the needed capital for the ship canal, which will be 1 percent of the thirty billion dollars which it is estimated form the total savings of 25,000,000 Americans who have small savings of less than \$7,000 on the average at interest of 4 percent or lower.

"This plan of finance will recommend itself to Congress as practical control by small savers, who, heretofore, have given so-called financiers all the difference between low interest rates and higher rates with large commissions."

With high administration authorities declaring that steps soon will be taken to negotiate an international treaty to permit the St. Lawrence route to be built, opposition to the plan is being found on the Canadian side of the border. The Chamber of Commerce of Montreal has voiced strong objection to the plan, joining with expressions of opinion coming from Quebec and other points in opposing what is considered in those quarters to be an effort on the part of "powerful American water-power interests" to make use of the resources which may be developed by harnessing the St. Lawrence.

In the meantime, while the two factions are securing firm grips upon hammers and tongs as they prepare to battle in earnest, members of the mining industry whose properties are situated so as to be tributary to a lake-to-ocean waterway are awaiting the result with well-warranted interest.

## FEDERAL PETROLEUM SPECIFICATIONS ARE NOW AVAILABLE

**S**PECIFICATIONS for the various refined petroleum products purchased by the Federal Government are given in Technical Paper 305, just issued by the United States Bureau of Mines. The specifications cover motor gasoline, aviation gasoline, naphtha, kerosene, signal oil, fuel oils, lubricants, etc. These specifications have been officially adopted by the Federal Specifications Board. They supersede the specifications published in Bulletins 1 to 5, inclusive, of the Committee on Standardization of Petroleum Specifications.

The Interdepartmental Petroleum Specifications Committee replaced the Interdepartmental Committee on Standardization of Petroleum Specifications, which had superseded the war-time Committee on Standardization of Petroleum Specifications. The work of the several committees has been continuous, and the present set of specifications is the result of several years' experience in preparing specifications and drawing up testing methods for petroleum products.

The present set of specifications was prepared by the Technical Committee on Standardization of Petroleum Specifications and adopted by the Interdepartmental Committee on Standardization of Petroleum Specifications, which were the immediate predecessors of the present committee.



# NO REAL LIGHT YET CAST UPON LEGALITY OF TRADE ASSOCIATION ACTIVITIES

**T**RADER ASSOCIATION representatives who met with Secretary Hoover and other administration officials in Washington April 12 to discuss the relationship between their organizations and the government, gained many pointers concerning cooperation with federal agencies in compilation and distribution of trade statistics. They left the meeting, however, with few answers supplied to many questions in their minds concerning legality of operations in the "twilight zone" of open-price activities. Beyond receiving from Secretary Hoover a renewed emphasis of the statement that his department could not and would not concern itself with the issue of legality of trade association operations by rendering any interpretation of the law, they gained little information on this score from the meeting. The business men found the one-day conference adjourned with the sum total of the government's guidance amounting practically to an enjoiner to "let your conscience be your guide."

Following the conference, there was a noticeable impression that the administration soon might engage in open warfare against those activities of open-price associations upon which it has frowned as being illegal.

## INVESTIGATION PROPOSED

Resolutions introduced in both houses of Congress, proposing a joint congressional inquiry into the whole subject of trade associations and their activities, commanded a large amount of attention, especially after Secretary Hoover in his address to the conference had expressed his approval of such an investigation. "I believe it would be in public interest if the experiences of recent years with inquiry into by such a committee as that proposed by the resolutions introduced by Senator Edge and Representative MacArthur," the Secretary declared. "The problem is not one of purely legalistic interpretation, for in the final analysis much must depend upon the economic and social results to the community. The whole commercial community is vitally interested in the limitation of cooperative action in the necessary presentation of restraint of trade. It is the duty of the Department of Commerce to study the economic effect of the law, and we are glad to have your views in the matter. The real problem is to avoid destroying the good in uprooting the evil. Men have been murdered with brickbats, but that is no reason for prohibiting brick houses."

## SUGGESTION FOR RELIEF

Coincident with discussion of the proposed investigation came a suggestion that relief for the situation might be found through legislation which would grant to trade associations the same immunity from anti-trust statutes as has been granted to organized labor and to the farmers. Certain it is that the trade associations will be forced to draw any relief they may get from the legislative branch of the government, rather than from the executive or administrative divisions. Touching on this subject, Secretary Hoover said:

"The labor unions solved this matter in securing legislation giving them practical immunity from restraint of trade laws. Lately the farmers have done the same. The commercial and manufacturing community has not asked for more than some interpretative help in questions along the twilight zone of trade restraint. The Federal Trade Commission was originally conceived in the sense of providing some measure of interpretation of the law,

but these provisions were largely stricken from the original legislation."

Various surveys of the situation have shown the number of trade associations engaged in operations entering into the twilight zone to be a very small percentage of the total. It is because of the small number of associations carrying on doubtful activities that Secretary Hoover has stated that all questions of legality of operations are very secondary, and "so unimportant in the larger matters of commerce and industry with which the associations in the vast majority concern themselves. It is in day to day cooperation that the largest and most vital problems of trade statistical compilation and distribution are found, in the opinion of the Secretary. Making plain the fact that the department's cooperative plan will not be imposed upon anyone, Secretary Hoover at the same time made the definite statement that there could be no cooperation with associations carrying on functions, "the legality of which has been questioned but not yet determined."

"These functions are in the main the so-called open-price activities of associations which are collecting data on prices and sales of their individual members, and circulating such individual data again to their members, together with certain other activities," the Secretary told the conference.

"I wish to state frankly and at once," he continued, "that the officers of the government do not believe that these functions are in public interest, whether they are used in violation of the law or not. The Department laid down the rule nearly a year ago that it could not cooperate with associations subject to such criticisms, and sees no reason to change it."

## DEPARTMENT OF JUSTICE PLANS

Indication of the fervency of action which the Department of Justice intends to launch against illegal association practices is found in the testimony of officials of the Department appearing before the House committee on appropriations. The legislators were told that if the department were given sufficient funds it would proceed energetically against the associations which it believes are contributing in a large measure to the factors which are keeping the cost of living from falling to lower levels. Representatives of the department stated that the recent decision of the Supreme Court in the hard wood lumber case did not "close the door," a being pointed out that the organizations in question seek shelter by taking a stand on the undefined area between absolute legality and a distinct restraint of trade.

Senator Edge, New Jersey, is the author of two measures affecting trade associations, introduced April 3, one providing for jurisdiction of the Federal Trade Commission over the organizations, and the other proposing a congressional investigation. The latter measure was sent to the Senate judiciary committee. It then was sent to the committee controlling Senate expenditures, from which body it was reported to the Senate by Senator Calder. Its immediate consideration and passage was sought by Senator Edge, but these moves were blocked by Senator Hitchcock, of Nebraska, whose objection sent the bill to the calendar.

## STRONG OPPOSITION FORESEEN

Strong opposition would develop in the Senate against any efforts to secure legislative action with a view to granting industry a clearer conception of those portions

of the twilight-zone which may fall within the designation of legal ground. This is the indication to be drawn from attacks made on Senator Edge's resolution during debate on the floor of the Senate.

Senator Edge was unable to secure a vote on his resolution, although he made strenuous efforts toward that end during progress of the full week of debate in the Senate on the measure. Opposition was based on the ground that no investigation is necessary and that it is difficult to define the legal limits surrounding business. Senator Stanley, Kentucky, opposed regulations by commissions, contending that the courts should have jurisdiction. Senator Edge has asked the Senate Judiciary Committee to give hearings on his bill proposing to define the status of trade associations and placing their regulation under the Federal Trade Commission.

#### SURVEY OF ACTIVITIES

Just before the trade association conference convened, the National Association of Manufacturers completed a survey of these organizations and their activities, based upon a questionnaire circulated a few weeks ago. Those who have been following the situation closely are of the opinion that this survey, forming practically the only existing fund of information of this particular type, will prove of high value to the industries of the country and to those branches of the government with which the associations plan to cooperate. Also, it is stated, the survey will have the effect of allaying much ill-considered agitation, political and otherwise.

Seeing the trend which affairs recently have been taking, the National Association of Manufacturers decided to inaugurate a timely investigation of the association to be conducted by the organizations themselves. The result is an enlightening mass of information which serves to emphasize the fact that the majority of the associations are functioning in a way that cannot under any circumstances be interpreted as being in violation of the law.

The questionnaire contained 21 questions and 135 answers were obtained and published in a circular which is being given broad distribution. The reports have been received from organizations whose total annual budgets amount to approximately \$7,000,000.

The survey shows that the question which is being given more attention than any other by the association is that of transportation, while labor problems receive a minimum of consideration.

In the matter of legislation, the subjects of most interest are taxes and tariff, with more interest in the tariff than in taxes. In the relation of these associations to the industries, the one question which has aroused the most careful attention is the standardization of grades of production and machinery. The question of secondary interest is in uniform contract. A minimum of attention has been paid to credit information or group insurance.

#### LARGE REPRESENTATION OF INDUSTRY

The associations which replied to the questionnaire represent on the average 64.9 percent of the business of the country in their particular lines. It was found that of the 135 hundred associations 92 have direct membership and 11 are federations, and it is believed this average has been maintained generally throughout all the associations. The apparent discrepancy in the figures is accounted for in the fact that three of the hundred associations have a dual form of organization. Most of the associations declare that the primary purpose is to improve and effect cooperation among the members in a common industry. The elaboration of purpose is

mainly toward the nationalization of trade associations, methods and aims. A few of them express a truly national purpose. These associations show by their date of organization that they are of more recent development. Three of those included in the first hundred depart radically in form from the local or trade associations. One of these brings to light an entirely new form of association. A second shows its national character by organizing to engage in only the national aspects of its industry. A bare majority of 51 percent have organized their activities under at least a few definite departments with salaried chiefs. The others adhere to the older method of working through committees of volunteers. The tendency seems to be in the former direction.

In the matter of cooperating with scientific bureaus of the government, 31 of the first hundred reported that they are beginning something of the sort; four are cooperating on matters of education; eight are making reports of the activities of their industry; and ten are working on the matter of standards. Concerning the vital statistics of industry, 18 are working with the government without specifying in what ways; 34 gather reports about production; eight about costs; seven about prices; and four about distribution. Of these various associations, eight specified that these reports are given to the public and nine that the reports are for members only. In the matter of reports on past and closed transaction, eight associations gather this data for the use of their members only and eight gather the data for the public only. Two compile reports without specifying in detail their character or their ultimate goal, and two more are just now studying the whole subject.

The American Column and Lumber Company has asked the Supreme Court to rehear or modify the decree in the recent case in which the court decided that the open-price association maintained by the hardwood lumber interests violated the anti-trust law. The court has been requested to modify its decree so as to permit of exchange by the association of reports on production, sales, and stock.

#### PETROLEUM CONSERVATION STUDIES

PROMOTION of great efficiency in the use of crude petroleum with a view to conserving the country's underground supply of crude petroleum is being undertaken by the Bureau of Mines through a number of technical studies, chief of which is the investigation of production of gasoline by cracking heavier oils, which process has been made the subject of a report recently issued by the bureau.

In making their report the bureau's experts point out that continuation of use of gasoline on the present scale threatens to bring about the practical exhaustion of the country's underground stores of crude petroleum in the course of "a few generations at most."

#### QUICKSILVER IN 1921

QUICKSILVER PRODUCTION REPORTS for 1921, made by the Geological Survey, indicate an output of 6,339 flasks, as compared with 13,392 flasks in 1920, showing that the quicksilver industry sank to the lowest level in its history during the past year. Experts of the Survey observe that the cost of production has not declined as rapidly as the price, and no large bodies of ore are now known which are comparable to those which were exploited when the industry was flourishing.

## A Mixed Octette



LABOR LEADERS FLANKED BY LEGISLATORS

Left to right—Representatives W. J. Burke, Pa.; O. E. Bland, Ind.; J. I. Nolan (chairman), Cal.; John L. Lewis, president, United Mine Workers of America; Frank Morrison, secretary, American Federation of Labor; Samuel Gompers, president, American Federation of Labor; Representatives Meyer London, N. Y., and W. O. Atkenson, Mo.

These typical questions were asked by members of the House committee on labor during the course of hearings held in connection with the coal strike:

### LEADING QUESTIONS ADDRESSED TO UNION CHIEFS

“The present suspension of work is in effect a lock-out; it has practically been caused by the employers, has it not?”

(Union official’s answer: “Literally, it is a lockout in every respect.”)

“The United Mine Workers I believe you stated, are ready and willing to meet in conference with the operators’ organization in order to try to arrive at a new agreement to last two years; is that correct?”

“Did they (operators) not enter into this contract with the declared public purpose of complying with it? \* \* \* And you contend they have violated this contract? \* \* \* Then what right have you to expect they will respect the provisions of another future contract?”

“You have in your industry what Professor Ely calls the ‘law of the meanest employer’ prevailing?”

“I recall that it took about 10 years’ prosecution of the operators to get wash houses in accordance with the statute. They have them now? They violated the law for 10 years, did they not, in that regard?”

“Simmered all down, you think they ought to be required to meet you and to sign up with you as they did two years ago; is that not the sum and substance of it? \* \* \* I know the operators do not own you and you do not own the mines. I guess we will agree that the operators do not own the miners.”

### CROSS-EXAMINATION DIRECTED AT OPERATORS

“Now do you approve of a condition that would change your whole plan of dealing with the miners for all these years? You fellows have always been able to get together. Were you in sympathy with tearing down the union to the extent of cutting off their finances?”

“If you reflect the attitude of the operators of the central competitive field, the matter looks quite hopeless. If you are willing to meet, but at the same time you say there is no use to meet, we can not get together, and at the same time you say there is no use to keep the contract, how do you expect to get together, if you have not any hope?”

(Operator’s answer: “You are putting words in my mouth that did not issue therefrom.”)

“You know that the miner’s organization is one of the strongest industrial organizations in the United States, do you not? And probably they have the best morale and the best means of protecting themselves and continuing the strike of any other organization known to labor.”

(Operator’s answer: “No; no organization can continue to defy public opinion indefinitely.”)

“It is a good thing the American people in this country are finding out that a certain group of people in this country, operating great public necessities, feel that contracts can be construed just as they feel like constraining them, and then throw on to the public the idea that it is just merely a technical construction that is being placed on it, just as the German Emperor figured that his agreement with the powers of the world was a scrap of paper.”

# A BUG'S-EYE VIEW OF WASHINGTON

By IRA L. SMITH

A N EPIDEMIC of political forecasting has wrapped the national capital in its arms. With congressional elections in the offing, every mother's son in Washington has taken it into his head to do some gilt-edged crystal gazing, hoping to call the turn in the great vote-nailing meleé.

Large portions of zip are being added to the present fortune-telling season by reason of the unreliability of past performances as means of catching sight of the on-coming fates. In other days, when things were closer to the ground, it was easy to run back to the last balloting meleé and figure out the dope by casting an eye into the Congressional Directory and lamping the records in the 1920 race. But that stuff is about as dependable in these days as the word of honor of the star boarder at Matteawan, or however they spell the place where New York's cracked noodles are stowed away. What happened in the last election furnishes no more of an indication of what will boom forth this year than a view from the south of a woman going north tells about her age in these hectic times when grandma and granddaughter can swap clothes without anybody getting the wiser. The well-known, far-famed, and justly celebrated Republican landslide of 1920 mainly is to blame for all of this.

So it comes that the dippy dopesters, including all from trained-seal journalists to professional politicians, are forced to watch the 1922 elections which already have taken place if they are to get any results at all with which to appease the howling mob of newspaper readers or satisfy themselves, as the case may be.

This leads to an interesting situation.

We find Oscar Wright Space, Washington correspondent of the New York Blatt, scratching his head over the returns of the election held last month up in Wumple-socket, Maine, when that struggling metropolis named the unfortunate who is to occupy office as its dog-catcher during the coming brace of years. Oscar is trying to find what the election by a majority of 56½ of Ezekiel Hardome, a rock-rimmed Republican, to that notable post will do in the way of affecting the chances of Edward Bolle Weevel returning to Congress for another session or so as representative of the Umpty-umphth Ohio district.

Right next to Oscar, we find a member of a Democratic state committee all knarled up in an attempt to foretell the result of the Senatorial race in his native land. By taking statistics showing the amount of floor wax exported by the United States to Afghanistan in 1902 and cleverly comparing them with estimates of the number of cases of appendicitis in Topeka, Kansas, during the past year, he hopes to reach some sort of a definite conclusion.

Oscar, the newspaper man, the Indiana politician, and all the rest of their respective dks—plural of ilk, by way of explanation in case it looks unfamiliar) sink clear up to their ears in the sea of uncertainty when they try to take into consideration the part which the various candidates' positions on national issues will play in deciding who will grab parking space in the nation's legislative halls when the votes of the great and glorious peepul comes booming out of the voting booths.

Take, for instance, the case of Representative Rhubarb. He is running for reelection on his record on the tariff. He has proclaimed to the five winds (they add

one to the customary four during the campaign to accommodate orating candidates) that his stand for a high duty on importations of hominy of foreign manufacture should gain from his constituents the reward of another term. Seeking to stampede the populace against him and his hominy is Pro Bonus Publico, his deadly rival, who points out that Rhubarb threw a fit of gout when it came time to vote on the bonus. Publico says that Rube would have succeeded in crawling out of having to cast his vote had it not been that he realized his mistake in having picked so plutocratic a disease, being forced to appear on the floor and cast his vote rather than lose his reputation of being one of the common folk.

Those who have glued their eyes to the situation declare that a record number of skeletons are going to be dragged out of political closets in which they have reposed since votes were taken on subjects of major interest, the purpose being to jangle their bones up and down, with opponents hoping that the rattle will drive the vote-casting supernumeraries in the political drama to their side of the fence.

With the dogs of uncertainty sitting around wagging their tails and having a great time of it generally in this way, it is no small wonder that those who are most vitally affected—the solons who are coming up for reelection—should be all agog, or whatever the word is that means excited. The more so should they be agogged, when they realize that it is going to be many a precious day, judging by the way present indications are holding their heads, before trips back home to look after political fences will be possible.

Leaders in the House declare that the tariff bill will not be gotten out of the road, unless the Senate caves in to the American valuation idea before the snow flies. Since the beautiful white stuff doesn't usually put in its appearance around the Capitol during the late summer months, it looks as though there is going to be a lot of that zipless campaigning in the sweet bye and bye.

There is just about as much punch in waging a political campaign with two thousand miles separating the wager and the wages as there is in making love to a girl over a telephone on a ten-party line with the operator listening in for good measure.

Several members of Congress were planning to overcome this handicap by taking advantage of this radio craze that everybody is foaming at the mouth about just at present. But the experiences of one of their fellows who tried the thing out in a small way the other day sent fond hopes of getting in touch with the folks back home via the ethereal route scampering clear to Limbo.

This horrible example rigged up one of the new fangled wireless telephone sets and started out to rehearse his speech, with a few interested spectators gathered at his house some blocks away to see how it went over, I am told.

He had just gotten about waist-deep into the second paragraph of his speech, if I am to believe my usually untrustworthy informant, when a station at Squeedunk, N. J., started firing an Uncle Jiggely Bedtime Story into the welkin. He managed to muster up all his vocal thunder and drown out the children's yarn, only to find his appeal for votes all tangled up with a weather forecast and a market report, with an obligato being rendered by a quartette singing "Old Black Joe" on a victrola just two blocks south of Bridgeport.



ROBERT LINTON  
Director, American Mining Congress

**M**R. LINTON began his engineering work in the coal mining and natural gas regions of Western Pennsylvania over twenty-five years ago, following completion of his studies at Washington and Jefferson and then at Berlin Polytechnic in Germany. He left the mining industry to enter his father's business for a few years, but returned and became actively engaged in mining engineering in 1906. Since that time his exploration and development work has carried him into many mining fields, both in this country and in Mexico. He now is president of the North Butte Mining Company, with which organization he became associated in 1917 after he had returned from Mexico where he had managed an important group of silver properties for the Sierra Consolidated Mines Co. At the same time he entered his connection with the Consolidated Copper Company, of which he is vice-president and managing director.

Mr. Linton is especially interested in the development and standardization of mining practices.



**M**INING OPERATIONS in many states have been carried on under the direction of Robert E. Tally since he initiated one of the most colorful careers in the industry shortly after his graduation from the Nevada School of Mines in 1899, with the degrees of B. S. and M. E. He now is general manager of the United Verde Copper Company at Jerome, Arizona.

Until 1907, when he joined the Staff of the United Verde Company, Mr. Tally followed the practical and engineering branches of mining and metallurgy in Nevada, California, Oregon, British Columbia, Washington, Idaho, Montana, Utah, Colorado and Dakota.

His first connection with the United Verde Company was as assistant mine superintendent at Jerome. He later was promoted to mine superintendent, then to assistant general manager, from which position he was promoted to the place he now holds.



HANSEN EVESMITH  
Vice-President, American Mining Congress  
State of North Dakota

**L**IGNITE OPERATIONS in the Dakotas during the past twenty years, preceded by ten years of explorations and dealings on the Mesaba and Vermilion iron ranges in Minnesota, have qualified Mr. Evesmith as an operator possessed of more than average knowledge of and intimacy with the details of his industry. He now is president and treasurer of the Zenith Coal Company, of Fargo, N. Dak., operating lignite mines.

While the major portion of his attentions during the past thirty years have been held by the operations in which he has been interested in the Dakotas and Minnesota, he has throughout that period been more or less associated at all times with mineral explorations and development in many other sections. His first connection with mining operations was in the salt fields of lower Michigan.

Mr. Evesmith has been a member of the American Mining Congress for several years and was a delegate from Minnesota to the Milwaukee and Denver conventions.



HALLECK W. SEAMAN  
Director, American Mining Congress

**B**Y MEETING and solving gold mining problems during the thirty years which span his interest in operations in the Black Hills of South Dakota, Mr. Seaman has built up for himself a fund of knowledge of the mining industry that places him among the foremost of those who have spent their lives in endeavors such as his. His studiously pursued investigations of metallurgy of the precious and semi-precious have endowed him with an experience that has brought much profit to him and to others. Since 1910 he has been president of the Trojan Mining Company.

Following his graduation from the University of Iowa in 1881 as a civil engineer, he began his career as a rodman in the engineering corps of the Chicago and Northwestern. Since that time he has been almost constantly interested in railroad operations, giving them his attention coincidentally with his activities in the mining industry. He was president of the Ozark and Cherokee Central Railway until 1903 and of the Illinois, Iowa and Minnesota Railway and the Chicago, Milwaukee and Gary Railway until 1908. He served in the same capacity for the Tremont and Gulf Railway until 1913, and the Lorain and West Virginia Railway until 1915. He was president of the American Wire Fabrics Company from 1913 until 1917, and chairman of the board of that company until 1919.



# TRANSFER OF AUTHORITY OVER ALASKA COAL FIELDS BRINGS NEW ERA OF DEVELOPMENT

ALASKA'S COAL fields are promised a new era of development by the transfer of supervision of their administrative affairs from the Navy Department to the Department of the Interior, an action set for May 1 by an announcement made last month. Results of the change already are apparent, being seen in a new interest evidenced by private industry.

Engineers of the Lake and Export Coal Company, of West Virginia, now are in the Chickaloon field, making extensive studies of the deposits, as well as investigations into the questions of transportation and probable markets for Alaskan coal along the Pacific coast. The company will use reports of these studies as the basis of a leasing proposal to be made to the government.

If this proposal proves acceptable to the government the President will issue an executive order taking the Chickaloon fields out from under the government reserve and opening them up to development by private industry under the leasing law. Officials make it plain, however, that this action will not be taken until the federal authorities are assured that a broad working policy of the highest practicability has been formulated.

By inducing an industrial organization of the magnitude of the Lake and Export Coal Company to take a definite interest with the aim of closing a leasing agreement, officials have succeeded in swinging away from the half-hearted activities which have surrounded operations under the Alaskan leasing law since it was enacted in 1914. Since that time, it is pointed out, not a single cent in royalties has been received by the government from those who have undertaken leases during that period. "Up to the present time," said one official in discussing the matter, "the government has been dealing largely with 'shoe-string' operators in its coal leasing activities in Alaska. These men do not possess sufficient finances or facilities as a rule to undertake development in the proper way. Many of those who have been demanding that the government build branches of its railroad to their mines have even failed to complete their leases. Entry into the field of the interests of large industrial organizations satisfies the first demand of conditions leading to successful development."

An exhaustive study is to be made of the problems which have arisen since it became the determination of the administration to place the Alaska fields under operation of private capital as soon as is possible without a sacrifice of the public interest being involved. Many of these problems are of a legal nature, but the physical and economic intricacies of this extraordinary situation are sufficient in number to demand solutions before any step of importance is made.

These physical and economic problems are to be given a first-hand study by Director H. Foster Bain, of the Bureau of Mines, who will spend the next three months in making an extensive personal investigation of local conditions connected with the issue of Alaska's natural resources in general and with the coal fields in particular. Dr. Bain will be accompanied on his tour of the territory by E. R. McMillan, assistant engineer of the Seattle Station of the Bureau; H. C. George, oil production engineer, and E. B. Swanson, his secretary.

First touching Alaskan soil at Juneau, where a conference will be held with Governor Scott C. Bone, the party will immediately proceed to the Sutton washery, where first-hand studies will be made to decide practi-

cality of the Matanuska and Bering River coals for naval use. A tour of the various fields then will be made, upon completion of which several days will be spent in another series of conferences at Juneau prior to the return to the states.

Upon his return to Washington Director Bain will make his report to Secretary Fall. Supplemented by the proposals received from private interests, it will form the basis upon which the policy of the department will be constructed.

The Sutton washery is scheduled to treat 5,000 tons of Matanuska coal and 600 tons from the Bering River Field this month. After it is washed this coal will be carried by the collier "Jason" to the Bremerton, Washington, Navy Yard, where it eventually will be placed in the bunkers of the "Texas," which vessel has been designated by the Navy Department to make the consuming tests.

Alaskan lignite will come into a new importance if future tests prove it to be able to stand up generally to the record established recently in consumption tests made by the government railroad. Additional boiler tests soon are to be made under the supervision of John Davis, superintendent of the Fairbanks Station of the Bureau of Mines.

Transfer of the Navy's Alaskan coal investment to the Interior Department was recommended by Secretary Denby to Secretary Fall on March 10, Mr. Denby suggesting that the Interior Department either operate the mine directly or by lease. The Navy already has invested \$1,100,000 in the development of the Matanuska field. Approximately 400,000 tons of coal have been blocked out at the Chickaloon mine and diamond drilling has developed 2,500,000 tons at Coal Creek, about two and one-half miles from Chickaloon. This coal from the Matanuska field requires washing after which it shows 14,000 B. T. U. per pound and it is said to rank with good American coals. The coal washing plant at Sutton will be completed by April 1, having a daily capacity of 250 tons of washed coal.

It was suggested by Secretary Fall that development work be stopped and efforts concentrated upon mining an additional 2,000 tons before May 1, which would form a reserve for pumping, ventilation and fire protection after the closing of the Chickaloon mine at that time.

The desires of the Navy Department, as expressed by Secretary Denby, are: That the developed asset be maintained, depletion by mining being covered by equal further development; that the present capacity of 250 tons daily be not decreased whether or not the mine be operated at that capacity; and, that the terms of the lease or of operation be prepared by the Interior Department subject solely to its decisions. If these terms involve royalty provisions, Secretary Denby says the royalties should be reinvested in terminal facilities at Anchorage or Seward as the Interior Department may decide.

"The Navy Department," Secretary Denby said, "is not prepared to guarantee the purchase of any coal from the Alaskan fields or give any favorable price differential to stimulate development of a Pacific supply of naval coal, because any favorable price differential must be contingent upon congressional action. It is probable, however, that the Navy would find it desirable to use Alaskan coal which complies with naval requirements if the differential be favorable."

# FUTURE COAL LEASING OPERATIONS WILL FORM LARGE PART OF PRODUCTION IN THE WEST

**F**UTURE OPERATIONS under the coal leasing law will contribute much toward elimination from the industry of overdevelopment, recognized as the seat of many problems arising out of the production and consumption of coal. This guard against overproduction, amounting to the most desirable type of conservation, is being built up by policies adopted by large operators in the west under which they will draw from leased lands the 32,000,000 which they now produce annually, holding their fee coals as a reserve. In this manner the leasing operations will not be taken over by other interests than those which own properties which already are able to oversupply the demands which are made of them. Were the situation to develop otherwise it would present conditions under which the privately owned holdings and the leased properties would be under operation and seeking to thrust their combined productions upon a market which furnishes a demand no greater than that which either will be able to supply.

The opinions of authorities are indicative of the strong foundation upon which these interpretations of the future of leasing activities are based. H. I. Smith, who is in charge of administration of the coal leasing law under the Bureau of Mines, substantiates these interpretations of his views, expressed as follows:

"Prior to March 1, 1922, the U. S. Geological Survey had acted on 480 applications for coal prospecting permits and 122 applications for coal leases, and the General Land Office had issued 162 permits and 18 leases. It is safe to estimate that the production in 1922 of the leases issued will be about 500,000 tons, probably more, and, everything considered, should reach 2,000,000 to 3,000,000 tons by 1925. Of the new leases to be issued, probably 50 will develop into important producers from which 5,000,000 tons may be expected by 1926. The small mines developed by the small operator will produce for the local market and will not have any material influence on the coal markets.

"On the above basis the total production from government land will reach 8,000,000 tons by 1926, 5,000,000 tons from extensions of existing mines, and 3,000,000 tons from new developments. I am strongly inclined to the view that the total production from the western field, estimated at 32,000,000 tons will be reached in this proportion, as the large operator as a rule will hold his coals as a reserve, maintaining and increasing his production from government lands.

"One of the most interesting developments in coal leasing is that practically all of the important producing companies in the west have either leased, made application for lease, or contemplate making application in the near future. As the scope of the law and the departmental attitude is better understood the activities will increase, and it is reasonable to expect that increased interest will be shown by the entire western coal fraternity."

A study of the 18 leases issued shows that they cover an area of 11,414 acres, of which 8,430 acres are extensions to going mines, and 6,014 acres in new developments. About 12,000 acres will be added to going mines by the 50 important leases in prospect, and about 14,000 acres will be new operations.

Of the 162 prospecting permits issued, covering an area of approximately 160,000 acres, it is safe to figure

that not more than 25 or 50 will develop into important leases, and that the production from this source will not exceed 2,500,000 tons by 1928. In many instances the prospecting permits are purely speculative; for example, along the Chicago, Burlington & Quincy Railroad between Casper and Basin, Wyo., 42 permits have been issued. The market for this area is limited and a most optimistic view cannot justify extensive developments, say officials.

Data show that production for 13 western states reached a maximum of 40,680,000 tons in 1920, a war year, and that the output dropped to 27,610,000 tons in 1921, another abnormal year. It is interesting to note that the figure last given is appreciably less than the production for 1907. On available information it is assumed by experts of the Bureau of Mines that an average annual production of approximately 32,000,000 tons for the next five years. While a normal growth justifies this figure, the uncertainty of conditions must be clearly recognized.

## THE CASE OF ALEX POHUTSKY, MINER No. 806

*On March 2, 1922, a strike was declared at Old Forge Colliery, Old Forge, Pa., involving 1,400 men who to March 31 lost approximately \$175,000 in wages. The circumstances leading up to this strike were as follows:*

*Alex Pohutsky, miner No. 806, was accused by the Grievance Committee of the United Mine Workers at this operation with having loaded more than two cars of coal on February 8.*

*The Grievance Committee investigated the matter and fined Pohutsky \$25. He refused to pay the fine.*

*The Grievance Committee called on the management on March 3, the men having gone back to work that day, and demanded that Pohutsky pay the fine or be discharged. The management refused to discharge Pohutsky, and stated that it had nothing to do with the enforcement of fines levied by the union for exceeding the amount of work that the union had seen fit to prescribe. The men again went out on March 4, and the strike has continued without interruption, although this is a case which under the contract should have been referred to the Conciliation Board.*

*Pohutsky asked to be allowed to work, and in a period of 13 days he and a laborer loaded 48 cars of coal, upon which the total earnings were \$428.53, less \$11.57 for supplies, making the net earnings of the miner and laborer \$416.96.*

*Based on the two-car limit fixed arbitrarily by the union, this miner and laborer during the same period would have loaded only 26 cars of coal and their total net earnings would have been \$191.44.*

*The incident shows the effect of limitation on production by the union, and indicates the earnings that it is easily possible for miners to make if they are disposed to do so.*

# MINING INDUSTRY'S COOPERATIVE MOVIES SHOW RESULTS OF PIONEER EFFORTS

**T**HE SUCCESS attending industrial motion picture activities carried on by the Bureau of Mines with finances provided by individual mining companies, who entered the field three years ago as pioneers, was outlined to a large gathering of business men and film producers and distributors held in Washington, April 11, under the auspices of the National Association of Manufacturers.

Members of the conference, in search of information as to the manner in which industrial motion pictures could best be applied to their individual needs, heard government officials summarize the results gathered by the mining industry from the alertness of its members and officials of the Bureau of Mines, who were the first to undertake this work in an earnest and intensive way.

Dr. H. Foster Bain, director of the Bureau of Mines, told the conference of the growth of that organization's motion picture activities, laying special emphasis upon the cooperation which has been rendered by members of the mining industry, who have supplied over \$400,000 for the work, while the government's only expense has amounted to \$4,500, spent for salaries and traveling expenses of its engineers engaged in this work.

It is through this plan under which the Bureau of Mines and the Bureau of Foreign and Domestic Commerce are operating that those in charge hope to carry the standard of American trade in the most distinctive way at the coming exposition to be held at Rio de Janeiro, with special attention to be paid to the exploitation of American mining machinery. It is being pointed out that an advertising campaign carried on at the exposition in behalf of domestic mining machinery through the means of industrial motion picture exhibitions will act in such a way as to create a demand for American mining machinery and open to American capital a number of opportunities in the development of low-grade ores in South America through the use of highly efficient and the most modern machinery.

The motion picture activities of the Bureau of Mines were inaugurated in an active way in 1917.

At that time the Bureau had in its possession films on the subjects of steel and iron but circulation of these films was done in a very meager way. Since that time the Bureau has obtained through cooperation of the

mining industry 65 subjects pertaining to mining activities, these subjects consisting of 450 reels of film which are being circulated at the present time.

A conservative estimate shows that there are about 500 reels sent out each month from the distributing center

of the Bureau, located at the Pittsburgh station, and a conservative estimate shows that approximately 50,000 people a month in the country are viewing these films. In addition to this, a number of films are in circulation throughout various countries abroad and reports state that they are being received in a most enthusiastic way.

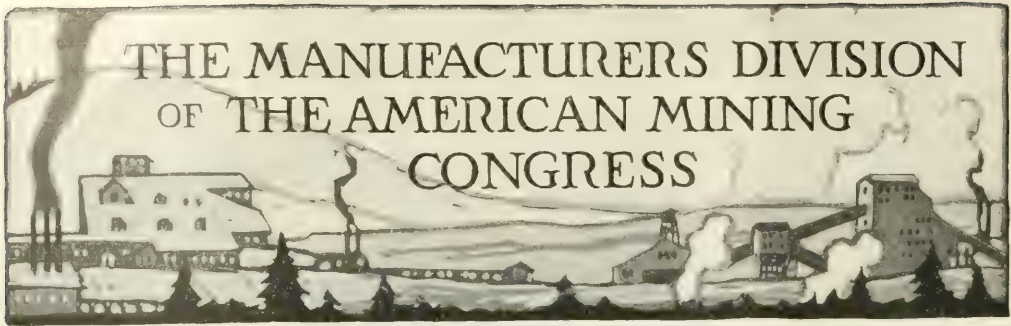
"Safety methods in mining and in factory operation, taught through the use of industrial films, especially among foreign and immigrant workers who are not familiar with the American language, are doing much to reduce accidents and industrial hazards in this country," Dr. Bain told the members of the conference.

"Many of the mine workers in this country are foreigners," he explained, "and our educational efforts in the direction of mine safety and the reduction in accidents have been carried on to a large extent with motion picture films. We have taught the technology of mining methods and practice in mine operations."

Morton F. Leopold, engineer in charge of the motion picture activities now being carried on jointly under the Bureau of Mines and the Bureau of Foreign and Domestic Commerce emphasized the necessity of carrying on into foreign trade competition the outgrowth of the idea first originated by the Bureau of Mines and members of the mining industry of this country. He pointed out the almost total lack of expense to the government, emphasizing the opportunities which this system offers Federal agencies to gain the most ample possible returns from their efforts to educate workmen in the various industries in this country in keeping with the original conception of the industrial motion picture plan, and to carry the battle of industry most successfully into foreign fields where American capital is seeking to gain ground during the existing reorganization of foreign finances and markets.



Motion picture photography in the murky depths of mines is a vastly different proposition from similar activities in studios where dramas are spun upon a ribbon of film. This picture indicates the handicaps involved in filming metal mine operations



## INCREASED EFFICIENCY IS THE BASIS FOR PROGRESS IN MINING INDUSTRY

**T**HE LAST twenty-five years have recorded the greatest and most remarkable developments in the mining industry. In 1897, the United States census returns indicated a total value of mineral production in the United States of \$646,992,582, while in 1920, the total value of mineral production in this country was \$6,707,000,000.

This enormous increase is indicative not only of the tremendous value of the mineral resources of the United States and the fundamental importance of the mining industry, but also of the steady developments which have taken place in the utilization of improved and more efficient methods, processes and equipment in the operation of mining properties. Increased efficiency in mine equipment has been the essential factor which has made possible the utilization of low-grade ores, has enlarged production and has maintained the development of the industry.

### FACTORS OF CONTINUED DEVELOPMENT

Today, the continuance of the development of the mining industry so essential to national prosperity is to a large degree dependent upon the further introduction of methods, processes and equipment and machinery which will reduce costs and make possible larger production.

In view of these facts, the Twenty-Fifth Annual Convention of The American Mining Congress, celebrating a quarter of a century of growth and development, will be devoted to the consideration and discussion of "Efficiency as the Basis for Progress in the Mining Industry." Safety, efficiency and conservation have long been the watchwords of The American Mining Congress. In view of present conditions, increased efficiency in the methods, processes, and equipment of mining operations will be the natural central theme of the convention sessions to be held at Cleveland.

A discussion of this character will, therefore, have a direct bearing on the comprehensive display of mine equipment and mine machinery on the exposition floors, for the exhibits there will furnish the most effective evidence of some of the methods by which increased efficiency can be attained in the mining industry.

The celebration of twenty-five years of development offers the exhibitors an unusual opportunity in some cases at least of indicating the improvements which have been made in their own products and of indicating the new developments which are now taking place. By thus linking together the convention and the exposition, both

of these features of this great industrial meeting will be given an added interest and the results should be beneficial to both manufacturers and operators.

In carrying out the development of these plans for the convention and exposition, special material will appear in the MINING CONGRESS JOURNAL relative to the products and equipment manufactured by the members of the Manufacturers' Division of The American Mining Congress.

### MODERN MINE HAULAGE

Among the problems of the mine operators, there is probably none which is attracting greater attention than the question of increased efficiency in the haulage of production to the unloading platform and in arranging for the elimination of a greater amount of depreciation of equipment in mine haulage.

In the problem of modern mine haulage, mine cars are an essential factor. The life of the mine car and the elimination of unnecessary strain and wear are, therefore, important items in mining costs.

Not many years ago, mine cars equipped with roller bearings were looked upon as a rather fancy article more of a luxury than a necessity, and the operator specifying roller bearing equipment for his mine car wheels was frequently considered as a theorist, interested in satisfying his own whims or desirous of spending money for the sake of spending.

Close competition and the necessity of eliminating costs at every step has led to a more careful scientific analysis of costs and to greater utilization of modern cost-reducing equipment. As a result, roller bearing equipment in mine cars has steadily increased until many operators have reached the conclusion that roller bearing equipment is an essential factor in securing lower costs and in lessening the depreciation of equipment in mine haulage.

### BRINGS CONTINUED TONNAGE

The advent of roller bearing equipment has made possible increased tonnage and frequently has rejuvenated old mines through the addition or substitution of easy running mine cars.

An interesting illustration of this fact is presented by the record of 7,537-ton production in an eight-hour day established at the Ziegler No. 1 mine of the Bell & Zoller Mining Company.

When this mine was opened in 1904 with top works considerably larger than any which existed at that time, it was predicted by Mr. Joseph Leiter that "within the

life of those buildings this mine will produce 5,000 tons of coal per day." Yet for a period of eighteen years, the production of the mine remained at a uniform level and it seemed to be impossible to develop the full tonnage available.

The conditions in this particular mine required a haulage of mine cars over a relatively long distance. To develop a large tonnage, three or four trips per day by the mine cars are essential. During the last six months, the officials of the mine decided to equip the majority of the mine cars with roller bearings and upon the receipt of the full quota of roller bearing cars the daily tonnage production increased steadily. For three successive days it passed the 5,000-ton mark for an eight-hour day and then increased daily as follows: 7,214, 7,283, until the record production of 7,537 was reached.

This record could not, of course, have been made without the extremely efficient mine organization which had been carefully built up by the Ziegler Company, but easy running mine cars were an essential factor in the achievement of this record tonnage.

The success of mine cars equipped with roller bearings is making possible over a long haulage way the production of record tonnage at the Ziegler mine and this record has been duplicated in hundreds of other mines. Roller bearing equipment tends to lengthen the life of mine cars, to prevent wreckage and to facilitate the use of electric storage locomotives which in turn are an important factor in the reduction of costs. The Hyatt Roller Bearing Company has been a pioneer in the introduction of roller bearing equipment in mine cars and the success which has attended the efforts of this company is the most substantial evidence of the fact that roller bearings have an important and essential place in mine car equipment and in securing larger production with lessened cost.

Scientific analysis of production cost in the mining as well as in other industries is making the present "the age of the survival of the fittest." Plain bearing running gear of the modern type is far more efficient than older types, but the manufacturers of roller bearings and many mine operators state that the average life of the modern plain running gear is from two and one-half to five years, while there are hundreds of sets of roller bearing equipment which have been running for fourteen years and are still in shape to furnish effective service for several years to come. High-class roller bearing equipment in mine cars has been one of the important advances in the mining industry in solving the question of low costs in mine haulage.

#### PROPER LUBRICATION ESSENTIAL TO ALL MINE EQUIPMENT

Modern mine car equipment or modern mine machinery is subject of necessity to continual strain and to rough handling. Its greatest value as a cost reducer lies in its utilization at full capacity over the longest possible period of time. To secure such a result the first essential, universally agreed to, is proper lubrication.

There was a time when grease was grease and black oil, or "black strap," was the almost universal lubricant for mine car wheels. Today, research work, chemical analysis, and scientific application have created an almost endless series of different greases and other lubricants, each adapted to meet particular conditions and special uses. The Keystone Lubricating Company, specializing in lubricants for mine equipment and mine machinery, has established a national reputation and a national market for its products.

Effective lubrication is the most important factor in

preventing depreciation of equipment and in lengthening the life of mine machinery. Proper lubrication reduces costs, prevents wreckage and increases the value of all equipment. In considering efficient and economical systems of lubricating mine car wheels, two factors are of special importance; first, the character of the lubricant, and second, the condition of the wheel equipment. Where black oil or cheap grease is used in cavity mine car wheels, the increase in temperature due to friction affects the lubricant much more rapidly than might be supposed and the increase in temperature tends to thin out the lubricant in a relatively short time, whereupon the lubricant slips out as waste on the road beds. This condition has been met by the production of a semi-solid petroleum grease made in several densities and designed to meet the conditions to be found in lubricating new equipment, medium worn equipment and badly worn equipment. The results obtained from the use of these lubricants have increased the length of service of mine car equipment and have lessened the frequency of additional applications of the lubricant. For cavity type mine car wheels with a well-selected effective lubricant, an application once in three months has been found to secure good average results. For solid roller bearing mine car wheels, satisfactory results have been obtained by an application of lubricant once in six months, although twelve and eighteen months' use of mine car wheels on one "dose" has frequently been obtained.

Other lubricants for different types of mine equipment and machinery have been standardized and have proved very effective.

This is an age of specialization and intensive research work is steadily developing the use of mine equipment and mine machinery, for it is scientific work of this kind which is tending to increase production and to secure larger results at lower costs. Effective lubrication is one of those problems which is frequently overlooked, but it is an essential factor in production costs and its consideration will lead to longer service and a fuller utilization of the capacity of mine equipment and mine machinery.

#### USE OF LIQUID OXYGEN EXPLOSIVES

ALTHOUGH the use of liquid oxygen explosives has not yet made much headway in the United States, experiments made with such explosives by a metal-mining company at Pachuca, Mexico, operated by American capital, promise quite satisfactory results, according to observations made by a representative of the United States Bureau of Mines. From the beginning of the entrance of the United States into the World War, efforts have been made by George S. Rice, Chief Mining Engineer of the Bureau of Mines, to have liquid oxygen explosives tried out practically in this country. Owing to the fact, however, that no manufacturer in the United States makes oxygen liquefying plants, the use of these explosives in America has been quite limited. The development of this innovation so far has been largely German, and in Germany oxygen liquefying plants are manufactured in various sizes in complete units of apparatus and containers.

Since the war the only extensive development outside of Germany has been in the Lorraine iron mines where the Germans installed apparatus, and additional apparatus has been put in by the French. One company in Lorraine is making its entire annual output of 1,500,000 tons of iron ore by the use of these explosives. This company has developed a cartridge of its own on which it has received patents, and has applied for others.

# TARIFF BILL REACHES FLOOR OF SENATE WITH MANY METAL ITEMS HANGING IN BALANCE

THE SENATE FINANCE COMMITTEE on April 11 reported the tariff bill to the Senate with the provisions on metals, minerals and their products as listed in the following statement which has been alphabetically arranged for convenience.

The committee will, by the time this article has gone to press, have entered into debate and possibly into the offering of committee amendments. It is expected that the schedules will be taken up in their order and that the consideration on the floor of the Senate will last at least sixty days.

The following are excerpts from the report accompanying the bill:

"Magnesite has been transferred from the chemical schedule to Schedule 2, where it properly belongs. A careful study was made of the cost of producing dead-burned or refractory magnesite in the United States and in Central Europe. The rate of four-tenths of a cent per pound is designed to place the domestic product on an equal basis with the imported material in the chief steel-producing centers of this country.

## GENERAL POLICY OUTLINED

The general policy of adjusting rates on raw materials to protect the domestic mining industries without inflicting undue hardship upon the consuming interests was followed throughout the metals schedule. The rate on tungsten ore in the House bill was retained, but the specific rate on ferrotungsten was reduced to permit a differential allowance for the losses suffered by the manufacturer of high-speed steel, at the same time protecting the ferro-alloy manufacturer. The transfer of manganese ore to the free list is a further illustration of this policy. Data as to domestic resources have been prepared by the Geological Survey and the Tariff Commission, and their evidence upholds the conclusion that domestic resources of manganese ore are insufficient in quantity to provide adequate supplies of this important metal for any considerable period. The rates on ferro-silicon, another important raw material in the manufacture of steel, are slightly reduced, but they should still afford fair protection to the domestic producers.

The most important change in the tariff treatment of non-ferrous metals is the transfer of tin metal back to the free list. Arsenic, bismuth and cadmium, formerly free, have been made dutiable. The duty on magnesium metal has been cut in half. The rate on quicksilver was reduced from 35 cents to 25 cents per pound and a corresponding compensatory duty (not provided in the House bill) has been placed on fulminate of mercury and other products containing quicksilver. The permanent duties on zinc metal were increased slightly in order to make them higher than those on the ore. The specific duty on nickel was reduced from 5 to 3 cents per pound, and the phraseology of the paragraph changed to recognize existing conditions of the trade.

## CLASSIFICATION OF CYANIDES

The Tariff Commission has suggested that all cyanides be classified under one paragraph as they are all used for practically the same purpose. The Commission says that a separate treatment and not their metal content is of importance to the consumer and that their classification under one head is logical. Senator Oddie, Nevada, has carried out the suggestion in an amendment placing

these products on the free list as follows: potassium cyanide, sodium cyanide, all other cyanide salts and all combinations and mixtures of cyanides. The Senator says free cyanide is for the purpose of protecting the gold and silver mining industries.

Senator Spencer, Missouri, has introduced an amendment increasing the duty on zinc ore containing 25 percent or more of zinc from 1.5 to 2 cents per pound on the zinc content.

Senator Shortridge, California, has introduced an amendment increasing the duty on quicksilver from 25 to 35 cents per pound.

Senator Nicholson, Colorado, has introduced several amendments to mining schedules. He proposes a duty of one cent per pound on amorphous graphite instead of 10 percent ad valorem as provided by the Senate Finance Committee; 3 cents a pound for crystalline, lump, chip or dust graphite instead of 20 percent ad valorem; 5 cents a pound for crystalline flake instead of 2 cents as proposed by the committee. Zinc oxide 2 cents per pound instead of 1 3/4 cents per pound as proposed by the committee. Lithopone and other mixtures or combinations of zinc sulphide and barium sulphate, 2 cents a pound instead of 1 3/4 cents as proposed by the committee. Another amendment would fix the duty on ferromanganese containing more than one percent of carbon at two and one-fifth cents per pound on the metallic manganese content instead of \$2.50 per ton as provided by the committee.

He also proposes a duty of one cent per pound on the metallic manganese content of manganese ore or concentrates containing in excess of 30 percent of metallic manganese. On manganese metal, manganese silicon, manganese boron and ferromanganese and spiegeleisen containing not more than one percent of carbon he proposes a duty of two and one-fifth cents per pound on the manganese content and of 20 percent ad valorem.

Another amendment proposes to remove oxide and ore of manganese from the free list.

The following are the most important items of the metal schedule as reported to the Senate:

**ALUMINUM**—*Par.* 374. Aluminum, aluminum scrap, and alloys of any kind in which aluminum is the component material of chief value, in crude form, 5 cents per pound; in coils, plates, sheets, bars, rods, circles, discs, blanks, strips, rectangles, and squares, 9 cents per pound.

**ANTIMONY AND ANTIMONIAL SALTS**—*Par.* 8. Antimony: Oxide, 1 1/2 cents per pound and 25 percent ad valorem; tartar emetic or potassium-antimony tartrate, 6 cents per pound; sulphides and other antimony salts and compounds, not specially provided for, 1 cent per pound and 25 percent ad valorem. *Par.* 376. Antimony, as regulus or metal, 2 cents per pound; needle or liquated antimony, three-fourths of 1 cent per pound. *Par.* 1509. Antimony ore (free).

**ARSENIC**—*Par.* 1. \* \* \* arsenic acid, 3 cents per pound; arsenious acid or white arsenic, 2 cents per pound. *Par.* 1513. Sulphide of arsenic (free). *Par.* 376 C. Metallic arsenic, 6 cents a pound.

**ASBESTOS**—*Par.* 1515. Asbestos, unmanufactured, asbestos crudes, fibers, stucco, and sand and refuse containing not more than 15 percent of foreign matter (free).

**BARYTES**—*Par.* 64. Barytes ore, crude or unmanufactured, \$5 per ton; ground or otherwise manufactured, \$10 per ton; precipitated barium sulphate or blanc fixe, 1 1/4 cents per pound.

**BAUXITE**—*Par.* 6. Aluminum hydroxide or refined bauxite, one-half of 1 cent per pound. *Par.* 307. \* \* \* bauxite, crude, not refined or otherwise advanced in condition in any manner, \$1 per ton.

**BISMUTH**—*Par.* 376 a. Bismuth,  $7\frac{1}{2}$  per centum ad valorem.

**CADMIUM**—*Par.* 376 b. Cadmium, 15 cents per pound.

**CHROME**—*Par.* 67. Chrome yellow, chrome green, and other colors containing chromium, in pulp, dry, or ground in or mixed with oil or water, 30 per centum ad valorem. *Par.* 201. \* \* \* chrome brick, not glazed, enameled, painted, vitrified, ornamented, or decorated in any manner, 25 per centum ad valorem; glazed, enameled, painted, vitrified, ornamented, or decorated in any manner, 35 per centum ad valorem. *Par.* 1544. Chromite or chrome ore (free).

**CYANIDE**—*Par.* 33 a. Cyanide: Potassium cyanide, sodium cyanide, all cyanide salts and cyanide mixtures, combinations, and compounds containing cyanide, 10 per centum ad valorem.

**FLUORSPAR**—*Par.* 207. \* \* \* fluorspar, \$5.60 per ton.

**GRAPHITE**—*Par.* 213 a. Graphite or plumbago, crude or refined: Amorphous, 10 per centum ad valorem; crystalline lump, chip, or dust, 20 per centum ad valorem; crystalline flake, 2 cents per pound. As used in this paragraph, the term "crystalline flake" means graphite or plumbago, which occurs disseminated as a relatively thin flake throughout its containing rock, decomposed or not, and which may be or has been separated therefrom by ordinary crushing, pulverizing, screening, or mechanical concentration process, such flake being made up of a number of parallel laminae, which may be separated by mechanical means.

**KAOLIN**—*Par.* 207. \* \* \* china clay or Kaolin, \$2.50 per ton.

**LEAD**—*Par.* 388. Lead-bearing ores and mattes of all kinds,  $1\frac{1}{2}$  cents per pound on the lead contained therein: Provided, That such duty shall not be applied to the lead contained in copper mattes until after two thousand tons of such lead shall have been imported in any one year, to be allocated under rules and regulations to be prescribed by the Secretary of the Treasury: Provided further, That on all importations of lead-bearing ores and mattes of all kinds the duties shall be estimated at the port of entry and a bond given in double the amount of such estimated duties for the transportation of the ores or mattes by common carriers bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling or smelting establishment, whether designated as bonded warehouses or otherwise. On the arrival of the ores or mattes at such establishments they shall be sampled according to commercial methods under the supervision of Government officers, who shall be stationed at such establishments, and who shall submit the samples thus obtained to a Government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import entries shall be liquidated thereon. And the Secretary of the Treasury is authorized to make all necessary regulations to enforce the provisions of this paragraph. *Par.* 389. Lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead, scrap lead, antimonial lead, antimonial scrap lead, type metal, Babbitt metal, solder, all alloys or combinations of lead not specially provided for,  $2\frac{1}{2}$  cents per pound on the lead contained therein; lead in sheets, pipe, shot, glazier's lead, and lead wire, 2% cents per pound. *Par.* 69. Lead pigments: Litharge,  $2\frac{1}{2}$  cents per pound; orange mineral, 3 cents per pound; red lead, 2% cents per pound; white lead,  $2\frac{1}{2}$  cents per pound; all pigments containing lead, dry or in pulp, or ground in or mixed with oil or water, not specially provided for, 30 per centum ad valorem.

**MAGNESITE**—*Par.* 204 a. Crude magnesite, five-sixteenths of 1 cent per pound; caustic calcined magnesite, five-eighths of 1 cent per pound; dead burned and grain magnesite, not suitable for manufacture into oxychloride cements, four-tenths of 1 cent per pound. *Par.* 201. \* \* \* magnesite brick, four-tenths of 1 cent per pound and 10 per centum ad valorem.

**MAGNESIUM**—*Par.* 375. Metallic magnesium and metallic magnesium scrap, 50 cents per pound; magnesium alloys, powder, sheets, ribbons, tubing, wire, and all other articles, wares, or manufactures of magnesium, not specially provided for, 50 cents per pound on the metallic magnesium content and 20 per centum ad valorem.

**MANGANESE AND MANGANIFEROUS IRON ORE**—*Par.* 302. \* \* \* ferromanganese containing more than 1 per centum of carbon, \$2.50 per ton: Provided, That ferromanganese for the purposes of this Act shall be such iron manganese alloys as contain 30 per centum or more of manganese; manganese metal, manganese silicon, manganese boron, and ferromanganese and spiegeleisen containing not

more than 1 per centum of carbon, 20 per centum ad valorem. *Par.* 1590. Iron ore, including manganiferous iron ore, \* \* \* (free). *Par.* 1607 a. Manganese, oxide and ore of (free).

**MICA**—*Par.* 208. Mica, unmanufactured, valued at not above 15 cents per pound, 4 cents per pound; valued above 15 cents per pound, 25 per centum ad valorem; mica, cut or trimmed, and mica splittings, 30 per centum ad valorem; mica plates, and built-up mica, and all manufactures of mica or of which mica is the component material of chief value, 40 per centum ad valorem; ground mica, 20 per centum ad valorem.

**MOLYBDENUM**—*Par.* 302. Molybdenum ore or concentrates, 75 cents per pound on the metallic molybdenum contained therein; \* \* \* ferromolybdenum, metallic molybdenum, molybdenum powder, calcium molybdate, and all other compounds and alloys of molybdenum, \$1 per pound on the molybdenum contained therein and 15 per centum ad valorem.

**NICKEL**—*Par.* 385. Nickel oxide, 1 cent per pound; nickel, and nickel alloy of any kind in which nickel is the component material of chief value, in pigs or ingots, shot, cubes, grains, cathodes, or similar forms, 3 cents per pound; in bars, rods, plates, sheets, strips, strands, castings, wire, tubes, tubing, anodes, or electrodes, 25 per centum ad valorem. *Par.* 1628. Ores of nickel; nickel matte (free).

**PETROLEUM**—*Par.* 1627. Petroleum, crude, fuel, or refined, and all distillates obtained from petroleum, including kerosene, benzine, naphtha, gasoline, paraffin, and paraffin oil, not specially provided for (free).

**POTASH**—*Par.* 1635. Potassium chloride or muriate of potash, potassium sulphate, kainite, wood ashes and beetroot ashes, and all crude potash salts not specially provided for (free.) Provided, That for a period of five years beginning on the day following the passage of this Act there shall be levied, collected, and paid, on the actual potash (potassium oxide) content of all the foregoing, a duty of  $2\frac{1}{2}$  cents per pound for the first two years; 2 cents per pound for the third year;  $1\frac{1}{2}$  cents per pound for the fourth year; and 1 cent per pound for the fifth year: Provided further, That thereafter the said potash content shall be free of duty.

**PUMICE STONE AND MANUFACTURES**—*Par.* 206. Pumice stone, unmanufactured, valued at \$15 or less per ton, one-tenth of 1 cent per pound; valued at more than \$15 per ton, one-fourth of 1 cent per pound; wholly or partly manufactured, fifty-five one-hundredths of 1 cent per pound; manufactures of pumice stone, or of which pumice stone is the component material of chief value, not specially provided for, 35 per centum ad valorem.

**PYRITES**—*Par.* 1590. \* \* \* dross or residuum from burnt pyrites (free). *Par.* 1663. Sulphur in any form, and sulphur ore, such as pyrites or sulphuret of iron in its natural state, and spent oxide of iron, containing more than 25 per centum of sulphur (free).

**QUICKSILVER**—*Par.* 73. Vermillion reds containing quicksilver, dry or ground in or mixed with oil or water, 28 cents per pound. *Par.* 383. Quicksilver, 25 cents per pound: Provided, That the flasks, bottles, or other vessels in which quicksilver is imported shall be subject to the same rate of duty as they would be subjected to if imported empty. *Par.* 383 a. Azides, fulminates, fulminating powder, and other like articles not specially provided for, 12% cents per pound. *Par.* 16. Calomel, corrosive sublimate, and other mercurial preparations, 45 per centum ad valorem.

**TIN**—*Par.* 85. Tin bichloride, tin tetrachloride, and all other chemical compounds, mixtures, and salts, of which tin constitutes the element of chief value, 25 per centum ad valorem. *Par.* 379. \* \* \* tin foil less than six one-thousandths of an inch in thickness, 35 per centum ad valorem; \* \* \* powdered tin, 16 cents per pound. *Par.* 387. Bottle caps of metal, collapsible tubes, and sprinkler tops, if not decorated, colored, waxed, lacquered, enameled, lithographed, electroplated, or embossed in color, 45 per centum ad valorem; if decorated, colored, waxed, lacquered, enameled, lithographed, electroplated, or embossed in color, 55 per centum ad valorem. *Par.* 1670. Tin ore or cassiterite, and black oxide of tin (free): Provided, That there shall be imposed and paid upon cassiterite, or black oxide of tin, a duty of 4 cents per pound, and upon bar, block, pig tin and grain or granulated, a duty of 6 cents per pound when it is made to appear to the satisfaction of the President of the United States that the mines of the United States are producing one thousand five hundred tons of cassiterite and bar, block, and pig tin per year. The President shall make known this fact by proclamation, and thereafter said duties shall go into effect. *Par.* 1670 a. Tin in bars, blocks or pigs, and grain or granulated and scrap tin (free).

**TUNGSTEN**—*Par.* 302. \* \* \* tungsten ore or concen-

trates, 45 cents per pound on the metallic tungsten contained therein \* \* \* ferrotungsten, metallic tungsten, tungsten powder, tungstic acid, and all other compounds of tungsten, 60 cents per pound on the tungsten contained therein and 25 per centum ad valorem; ferrochromium tungsten, chromium tungsten, chromium cobalt tungsten, tungsten nickel, and all other alloys of tungsten not specially provided for, 60 cents per pound on the tungsten contained therein and 25 per centum ad valorem.

**ZINC**—*Par. 74.* Zinc oxide and leaded zinc oxides containing not more than 25 per centum of lead, in any form of dry powder, 1½ cents per pound; ground in or mixed with oil or water, 2¼ cents per pound; lithopone, and other combinations or mixtures of zinc sulphide and barium sulphate, 1¼ cents per pound. *Par. 88.* Zinc chloride, 1 3/10 cents per pound; zinc sulphate, three-fourths of 1 cent per pound; and zinc sulphide, 1½ cents per pound. *Par. 390.* Zinc-bearing ore of all kinds, containing less than 10 per centum of zinc, shall be admitted free of duty; containing 10 per centum or more of zinc and less than 20 per centum, one-half of 1 cent per pound on the zinc contained therein; containing 20 per centum or more of zinc and less than 25 per centum, 1 cent per pound on the zinc contained therein; containing 25 per centum of zinc, or more, 1½ cents per pound on the zinc contained therein: Provided, That on all importations of zinc-bearing ores the duties shall be estimated at the port of entry, and a bond given in double the amount of such estimated duties for the transportation of the ores by common carriers bonded for the transportation of appraised or unappraised merchandise to properly equipped sampling or smelting establishments, whether designated as bonded warehouses or otherwise. On the arrival of the ores at such establishments they shall be sampled according to commercial methods under the supervision of Government officers, who shall be stationed at such establishments, and who shall submit the samples thus obtained to a Government assayer, designated by the Secretary of the Treasury, who shall make a proper assay of the sample and report the result to the proper customs officers, and the import entries shall be liquidated thereon. And the Secretary of the Treasury is authorized to make all necessary regulations to enforce the provisions of this paragraph. *Par. 391.* Zinc in blocks, pigs, or slabs, and zinc dust, 1½ cents per pound; in sheets, 1¾ cents per pound; in sheets coated or plated with nickel or other metal (except gold, silver, or platinum), or solutions, 2 cents per pound; old and worn-out, fit only to be remanufactured, 1 cent per pound: Provided, That for a period of two years beginning on the day following the enactment of this Act the rates of duty shall be as follows: On zinc in blocks, pigs, or slabs, and old and worn-out zinc fit only to be remanufactured, 2 cents per pound; zinc in sheets, plates, strips, or coils, plated with nickel or other base metals, or in fabricated form, and zinc dust, 2½ cents per pound.

### PETROLEUM REFINING INDUSTRY SHOWS AMAZING GROWTH SINCE 1914

**P**ETROLEUM refineries in the United States on January 1, 1922, numbered 479 completed plants, with 30 additional plants in process of construction, according to a statistical summary prepared by H. J. Lowe, petroleum economist of the Bureau of Mines. The indicated daily refining capacity of these plants is 2,164,050 barrels of crude oil.

A tremendous increase in the extent of the petroleum refining industry of the country is shown by the fact that in 1914 but 176 petroleum refineries had been completed. Within eight years the number of refineries has been increased by 172 percent.

Of the 479 completed refineries in the United States 154 were in shut-down condition at the first of the year. The daily refining capacity of these non-operative plants was 254,610 barrels, or approximately one-eighth of the entire refining capacity of the country. The 30 new plants in process of construction will, it is estimated, add 59,950 barrels to the country's daily refining capacity.

Copies of the directory of petroleum refineries in the United States may be obtained from the Bureau of Mines, Washington, D. C.

### MINING VALUATION ENGINEER ON BOARD OF INTERNAL REVENUE APPEALS

**A**LL MINE tax cases carried to the committee on appeals and review of the Bureau of Internal Revenue are assured of receiving the attention of a mining engineer who is conversant with the technicalities of both the coal and metal mining industries.



ALBERT WESLEY GAUMER

This is the result of the recent appointment of Albert Wesley Gaumer to a position on the committee.

Mr. Gaumer first became connected with the bureau in 1919, when he entered the natural resources division of the income tax unit. He was in charge of iron ore valuations in the metals valuation section until September, 1921, when he was appointed chief of the coal valuation section. He has been succeeded as chief of the coal valuation

section by F. L. Clemens, a graduate of the Michigan School of Mines in 1903 and since connected with a wide range of mining operations in the United States, Alaska and Mexico.

Mr. Gaumer is a graduate of Lehigh University and has extensive experience gained while employed by the Bethlehem Steel Company in Cuba on engineering work consisting of valuations, exploration, surveys and construction, as well as operations of mines.

### FROTH FLOTATION OF COAL

**I**NVESTIGATIONS conducted at the Northwest Experiment Station of the U. S. Bureau of Mines at the University of Washington, Seattle, show that there is no reason, technically, why many American coals cannot be successfully cleaned of part of their ash and refuse by froth flotation, a process already in extensive use in cleaning or concentrating copper, lead, and other ores. Particularly on the Washington State coals investigated, much ash not ordinarily removed by the present form of cleaning jigs, is capable of elimination. The process has already been put into successful commercial practice in England and in other foreign coal fields. Its commercial success in this country must, of course, depend on its cost as compared with the present cost of putting clean coal on the market. It would appear, however, that the process offers promise, especially in coal fields where the product coming from the mines contains high ash, and where competition from clean coal from other fields is not too great. For the future, when it becomes imperative to mine the dirtier beds of coal, it points the way to greatly increasing the nation's potential coal supply.



## HOOVER SEES SUPER-POWER PROJECT AS POSSIBLE STABILIZER OF COAL INDUSTRY

THE SUPER-POWER project, under which power plants in the Atlantic Coast region between Washington, D. C. and Portland, Maine, would be harnessed into one vast unit, holds possibilities as a stabilizing influence for the coal industry, according to the views of high government officials. Secretary of Commerce Hoover, in commenting upon the subject, which has been revived in general discussion following its consideration at a recent meeting of the Cabinet, has pointed out the benefits which the coal industry in particular and the country in general would gain from operation of the project.

"A more regular demand for the coal, induced by operation of power plants located at the mouths of the mines, would tend to create a regularity of the stream of production," Mr. Hoover recently declared. "This alone would result in some measure of stabilization being added to the industry."

"While electrification of railroads and other plans being laid in connection with the proposed project would save 50,000,000 tons annually in the consumption of coal, normal demands would increase sufficiently before super-power system actually was operating to off-set for the reduction in production which otherwise would take place."

The main problem for which a solution is being sought is that of providing cheaper power, electrification of railroads taking place as a secondary objective. This reduction of the expense of producing power will be achieved largely by the location of generative plants close to mines, say those who advocate the proposal, thus eliminating high transportation costs which now are saddled upon the hundreds of individual plants operating in the "super-power area."

Those who are carefully nurturing the super-power plan during the period immediately following its conception are not alone engaged, however, in looking far forward into the future. They are striving to find ways and means of overcoming the many physical and legal handicaps which confront them in their development of a project of so large a scope as to cause a leading economist to declare that its completion will mark the "opening of a new industrial era in this country."

It is to contemplation and analysis of the legal problems attached to the proposal that the engineers and counsel in charge of the plans are devoting their present attentions, a great deal of intense study of the physical phases already having been made and the results incorporated in a report made public by the Geological Survey last year, when it was submitted to the President.

The chief legal difficulty is found in the task of coordinating the laws of the eleven states in the super-power area, and the dictates of as many public utilities commissions. This problem of securing a concerted line of action under a unified legal control is of such importance that high administration officials have taken pains to point out with emphasis the demand which it makes upon the Federal government for assistance in its solution. This assistance now is being rendered by a board which is devoting to the subject the same intensive attention which the physical problems have and will continue to receive.

Observations made in connection with preliminary investigations of prospective locations for super-power plants in coal mining regions have brought to light a number of problems which would furnish appreciable

physical handicaps were no solution to be found for them.

Chief among these problems is that one which is created by an apparent lack of the immense supply of low temperature water necessary in the operation of condensation engines to be employed at these plants. It appears that rivers in the bituminous and anthracite fields of Pennsylvania do not provide the necessary facilities. In many cases, the streams either are too small or their waters are so contaminated with corrosive substances that the boilers of the plants, according to engineers, would be destroyed in a short time if the sulphur-laden water were used. The importance of the factor of water supply is indicated in recent estimates that 800 tons of condensing water are necessary for every ton of coal burned beneath the boilers.

It has been found difficult to estimate the length of time required to allow a river to regain its natural temperature after receiving heated water from a "super-plant" before it can again be utilized. Estimates of the number of plants that could be maintained in proximity to coal mines along the navigable rivers are none too accurate for this reason. The three rivers cutting through the Pennsylvania fields have been made the subject of very detailed investigations, however, leading to some tangible deductions. The Susquehanna, with its two forks, condensed the largest facility, with the Lehigh and the Delaware left to furnish the bulk of the remaining power. The Eastern branch of the Susquehanna is too contaminated, in the main, with sulphur from the mines to furnish any appreciable supply of condensing water. The Western fork is pure and furnishes several available plant sites along the course, as does the main stream below, since the impurity of one fork is offset at the juncture by the purity of the other. It is estimated that a plant totaling a capacity of 100,000 kilowatt hours can be furnished condensation water from this stream.

The Lehigh probably can accommodate a similar capacity. The Delaware furnishes a more complicated problem because of the proposed construction of water power plant dams along its course. The alternate storing and discharging of water by the reservoirs will create such an irregular flow as to render the river practically useless for superpower plants below the dams. Plans have been suggested, however, whereby the plants might be erected just above the dam where, through the increased temperature of their discharged water, they might aid in preventing the water in the reservoirs from freezing during the winter. Plans for the superpower project to be practical must be based upon the minimum supply of water available for plants erected near enough to the mines to eliminate costs of coal transportation from the expenses of producing the identical power production.

The fuel problem also is involved. Especially intricate is the situation presented in the anthracite fields, where "run of mine" coal is too valuable to be burned under boilers, leaving only the culm or waste to be utilized by plants which the project proposes. Modern mining methods will so reduce the future proportion of culm to mined coal that a single power plant probably would use the culm from a number of trick mines, since no one mine would be sufficient to provide the necessary supply. Unless remedied, this condition would defeat the very purpose of establishing plants at the mines, observers say, since transportation would be

necessary. Another factor contributing to the impression that power plants of greater than average size are impractical at the mouth of anthracite mines is found in the greater ease with which "run of mine" bituminous coal, containing as much or more heating power than culm, can be handled with a smaller involved investment.

Of vital interest is the observation that the life of any single mining field will be shortened greatly through the immense demand made upon it by large power plants. One government official states that it would be only a matter of a few years until a mine supply would be so worked out as to involve transportation at least a short distance, and that coal might as well be hauled to a point where condensation water is available and along electric current haulage is eliminated, once it has been loaded into a railroad car, also the high cost of construction of a high tension power line from the mine to the main superpower lines, added to the problems arising in connection with erection of plants at the mines, might prove impractical, according to the opinion of those closely in contact with the situation.

#### PETROLEUM EVAPORATION LOSSES MUST BE CURBED, SAY EXPERTS

**E**VAPORATION losses of petroleum are so large that they should receive the attention of the industry at once, say Bureau of Mines officials in commenting upon reports which show that in one stage only of handling crude oil the volume of gasoline that evaporates is equal to one-thirtieth of the country's yearly gasoline production. This loss occurs during the few days that the oil is stored in the leases before being taken by the pipe line, and in one year amounted to 122,100,000 gallons in the Mid-Continent field alone.

Investigation has further shown that the gasoline in crude oil evaporates from one-half to six-tenths as rapidly as the same gasoline after being distilled and stored, all evaporative conditions being the same.

Many wastes in the oil fields are called "necessary." By this is meant that the cost of preventing the waste is greater than the gain through saving. Evaporation losses have fallen heretofore in this category, but now they must be considered unnecessary. In other words, it is no longer economical for any handler of crude oil to permit losses through evaporation.

In accordance with its purpose of seeking to conserve mineral resources, the Bureau of Mines investigated the loss of gasoline by evaporation in the storage and handling of petroleum. Inasmuch as most producers had not decided that their losses justified corrective measures and no evidence was available on the comparative losses in various stages of handling the oil, the investigation was limited to determining by experiment and observation the nature and magnitude of evaporation losses, where the greatest losses are, and the fact controlling evaporation.

The results of these studies are incorporated in Bulletin 200, "Evaporation Loss of Petroleum in the Mid-Continent Field," by J. H. Wiggins, petroleum engineer of the Bureau, which has just been issued.

#### BY-PRODUCT COKING CONTINUES TO SUPERSEDE BEEHIVE OPERATIONS

**B**Y-PRODUCT coke production in 1921 was almost 20,000,000 tons, and that of beehive coke was approximately 5,500,000 tons, according to reports compiled by the Geological Survey. These figures show a striking contrast to those for 1920, when the output of by-product coke was more than 30,000,000 tons and that of beehive was more than 20,000,000 tons.

The output of beehive coke last year was less than that of any other year since 1885. One month of 1921 showed an output of only one-ninth the average monthly production in 1920. The monthly average for 1921 was only approximately 27 percent of that for 1920.

"These figures show conclusively that by-product coking of bituminous coal is continuing to supersede beehive coking," said R. S. McBride, the expert who compiled the report. "This change in practice has been in progress for some years, but the first convincing demonstration that the by-product branch of the coking industry could maintain itself in a period of industrial depression more strongly than the beehive branch was made in 1921.

#### HOLIDAYS AND HOLY DAYS FORM LARGE PART OF MINERS' IDLE PERIODS

**A** HOST of holy days and holidays takes the edge off of statements made by officials of the miners' union before the House Committee on Labor to the effect that miners in the bituminous fields of Pennsylvania and Ohio and other districts worked on an average less than 125 days a year.

When the long list of church holidays, observed by those who make up the vast majority of men employed in the mines, is added to legal holidays and Sundays, a greatly different impression is obtained from that which is gathered when 125 is subtracted from 365 as indicating the number of days which miners were unable to work.

Compilations show that 44 holidays are observed annually by the Roman and Greek Catholic Churches alone. To these are to be added eleven legal holidays and 52 Sundays, as well as the various holidays which are legalized by individual states in which the mines are located. Disregarding the state holidays, it is shown that there are 107 days in each year when it is to be expected that large numbers of the miners will not work because of their own lawful option in the matter.

#### PORTLAND CEMENT IN 1921

**P**ORTLAND cement production in 1921 mounted to 98 percent of that for 1920, the record year of the industry, totaling 98,293,000 barrels, according to preliminary estimates made by the Geological Survey.

Total shipments in 1921, about 95,051,000 barrels, were nearly 99 percent of those in 1920.

The stock of finished cement at the mills at the end of 1921, about 11,938,000 barrels, showed an increase over the stock at the end of 1920 of more than 33 percent. This stock exceeded the average stock in hand at the end of each of the years 1917 to 1921 by over 27 percent.

The average factory price in bulk at the mills for the whole country was \$1.87 a barrel in 1921, as compared with \$2.02 a barrel in 1920, a decrease of 7.4 percent.

# Woofing and Warping

## VI. Representative Joseph G. Cannon

A Series of Scrutinies Directed Toward Notable Legislative Personalities

By IRA L. SMITH



Joseph G. Cannon

**B**ACK in the dim dark days beyond recall when huge animals two hundred feet long flew through the air Joseph Gurney Cannon was born in Illinois. Several centuries ago he entered Congress and later was made Speaker of the House. Now he is going to call it quits as far as his legislative career is concerned. He will return to Illinois, looking like Methuselah. Looking like Methuselah would look with a black cigar stuck in his face.

Not long after he first squatted in the Speaker's seat somebody nicknamed him "Czar." And it wasn't because he wore whiskers, either. Armed with a set of potent regulations called "Reed's rules," he had more power than a sultan in a harem. In those merry days his command would have been enough to stand the members of the House upon their heads in two foot of snow had he suddenly desired to witness the spectacle of the palms of the solons' feet facing the sky.

Things reached the point where no child's education was considered complete unless he was able to criticize Joe Cannon in seven dialects. The Speaker was up to his ears in caustic comments. His whip-cracking over the heads of the legislators was about as popular as an epidemic of lock-jaw at a women's national convention.

But he had a great defense that held him in the Speaker's saddle through four Congresses. When the customers wared wrathly, he would tell them blandly that if they did not like it they were at liberty to trot out a majority resolution at any time for the purpose of giving him the grand and glorious bounce.

Oratory and Joe never got well enough acquainted with each other to be on speaking terms. Even at that he could spring a string of smiles and satire in the balmy days that would make them all rise on their hind legs and take a listen.

Always as much of a partisan as they make them and with flocks of hands throwing stones at his official head for years, the way he has come out of the muck with but few folks carrying a gratch against him is something to tell the children about. Tuck the credit for this upon his personal popularity, which long ago took root and flowered in a bed of earnestness, frankness and fellowship.

Uncle Joe these days moves around like an animated heirloom. Quite often he enters the floor of the House, walks down the center aisle and sits down upon the folding camp stool which he has brought with him in order that he may provide his own seat right down in front of the platform; he occupied in the days when he had the boys jumping through hoops and playing dead dog.

Looking at Uncle Joe in his eighty-sixth year of this hectic life I half-wan give George Bernard Shaw credit for having the right dope. He claims that a giraffe got his long neck because its ancestors wanted long necks so that they could reach the tender leaves at the tops of the trees, and says that human beings should be able to stretch their lives the same way, concluding that most folks when they die really have just gotten enough sense to live. It does seem that Uncle Joe is like George's characters who just got out of the kindergarten at sixty years of age, and one doesn't have to stretch the imagination to picture him as retiring from a political career so that he can go back to Danville, Ill., and resume the active practice of law, now that he has reached the age of maturity.



# MANY INDUSTRIES MORE SEASONAL IN THEIR OPERATION THAN COAL MINING

**C**OAL MINERS suffer less from seasonal unemployment than do the men employed in twenty-nine other major industries, according to statistics compiled from Census Bureau data by the staff of the Bureau of Mines for the information of members of that organization; comparison being drawn between periodical unemployment in various branches of the mining industry as contrasted with that existing in fifty-five other industries.

Bituminous mines in May, 1909, employed only 85.4 percent as many men as in December. Anthracite reached a minimum in August, with 95.8 percent as many men as in March. For the oil and gas wells, the number of employes in February was 83.9 percent of the number for November. For copper mines December was 94.4 percent of October, showing very little seasonal variation. Iron mining employed only 85.2 percent as many men in January as in October. Employes at limestone quarries in January were only 48.1 percent of the number in September.

The same months apply also to granite quarries, where the minimum was 62.7 percent of the maximum. All of these figures are based upon the payrolls. If the number of persons actually working were known, it would probably show the seasonal variation to be greater.

But even with this record the seasonal character of mining with a general average of 90.8 between the months of maximum and minimum employment, does not compare so unfavorably with manufacturing industries with an average of 91.7 percent.

The statistics were compiled from the only source of general statistics regarding the seasonal character of mining as compared with other industries in the reports published by the Census Bureau, showing the number of persons employed on the 15th of each month during the census years. These reports are far from being satisfactory, for two reasons: they fur-

nish monthly figures for only the manufacturing and mining industries, and they show the number of employes on the payroll each month rather than the number actually at work. Despite these inaccuracies, however, they are considered as casting an informative light.

Because the figures for 1920 are not complete, it is necessary to go back to a previous census to find how the number of employes in mining and manufacturing varied from month to month. The census immediately preceding the most recent one was for 1914, but that year cannot be chosen because it was not a normal year, the second half of the year being marked by a decline in industry, throwing the figures on employment for the second half of the year out of their usual relation with those for the first half. So that we must accept the reports for the 1909 census as the most recent ones available for something like a normal year. The employment figures for 1909 parallel very closely those for the 1904 census in the relative number of employes on the 15th

NUMBER OF WAGE EARNERS IN VARIOUS INDUSTRIES (1909 Census)

	Establishments	Average employes	Busy season	Dull season	Percent dull is of busy
Coal: Anthracite	192	173,504	Mar., 173,025	Aug., 165,740	95.8
Bituminous	3,503	569,789	Dec., 560,089	May, 478,455	85.4
(Combined)	3,695	743,293	(Dec., 729,273)	(May, 646,592)	(88.7)
Petroleum and natural gas	7,793	39,831	Nov., 39,932	Feb., 33,521	83.9
Copper	161	53,143	Oct., 53,148	Dec., 50,151	94.4
Iron	176	52,230	Oct., 51,055	Jan., 43,491	85.2
Precious metals	2,282	37,815	July, 33,869	Dec., 30,751	90.8
Lead and zinc	977	21,603	Dec., 18,374	Jan., 15,330	83.4
Limestone	1,665	37,695	Sept., 37,209	Jan., 17,908	48.1
Granite	707	20,561	Sept., 21,899	Jan., 13,732	62.7
Phosphate rock	51	8,186	July, 8,114	Oct., 7,610	93.8
Cotton manufactures	1,324	378,880	Dec., 383,529	Jan., 374,433	97.6
Hosiery and knit goods	1,374	129,275	Nov., 134,540	Jan., 123,308	91.7
Woolen industry	1,124	202,029	Nov., 207,340	Jan., 191,630	92.4
Fur-felt hat	273	25,064	Dec., 29,062	Feb., 19,394	68.7
Silk manufactures	852	99,937	Mar., 100,753	July, 96,534	95.8
Cordage, twine, jute, linen	164	25,820	Mar., 26,698	Nov., 24,313	90.3
Dyeing and finishing textiles	426	44,046	Mar., 44,863	July, 43,212	96.3
Blast furnaces	208	38,429	Dec., 46,727	Apr., 33,458	71.6
Steel works and rolling mills	446	240,076	Dec., 283,629	Mar., 215,076	75.8
Electric mchy., apparatus and sup.	1,009	87,256	Nov., 99,239	Jan., 77,444	78.0
Shipbuilding	1,353	40,506	Apr., 42,256	Feb., 37,565	88.9
Agricultural implements	640	50,551	Dec., 55,465	Aug., 44,906	81.0
Slaughtering and meat packing	1,641	89,728	Dec., 94,162	Apr., 82,708	87.8
Butter, cheese, condensed milk	8,479	18,431	July, 21,392	Jan., 15,121	70.7
Canning and preserving	3,767	59,968	Sept., 154,800	Jan., 19,998	12.9
Flour-mill and gristmill	11,691	39,453	Nov., 41,898	June, 36,911	88.1
Manufactured ice	2,004	16,114	July, 22,872	Jan., 9,847	43.1
Salt manufacture	124	4,936	July, 5,229	Jan., 4,340	83.0
Beet sugar	58	7,204	Nov., 16,807	Feb., 2,206	13.1
Cane sugar and molasses	214	4,127	Feb., 15,761	Nov., 559	3.5
Logging camps & merchant sawmills	33,090	547,178	Nov., 585,304	Jan., 515,152	88.0
Fianos and organs	507	38,020	Dec., 40,011	July, 36,269	90.6
General chemical industry	349	23,714	Dec., 25,073	Jan., 22,609	90.1
Explosives	86	6,274	Dec., 7,106	Apr., 5,504	77.5
Fertilizer	550	18,310	Mar., 29,310	July, 14,264	48.7
Paints and varnish	791	14,240	May, 14,692	Jan., 13,223	90.0
Coke	315	29,273	Dec., 33,094	Apr., 26,461	79.9
Manufacture of gas	1,296	37,215	June, 40,412	Feb., 32,562	80.6
Petroleum refining	147	13,929	Nov., 15,249	Mar., 12,952	84.9
Soap	420	12,999	Dec., 13,650	Jan., 12,337	90.4
Turpentine and rosin	1,585	39,511	July, 40,634	Jan., 37,112	91.3
Boots and shoes	1,918	198,297	Dec., 207,452	May, 190,382	91.8
Leather	919	62,202	Dec., 66,634	May, 60,075	90.1
Leather gloves and mittens	377	11,354	Dec., 12,007	Jan., 10,659	88.8
Paper and wood pulp	777	75,978	Dec., 77,430	Aug., 74,517	96.1
Printing and publishing	31,445	258,434	Dec., 269,884	July, 251,757	93.3
Carriages and wagons	5,492	69,928	May, 73,240	Jan., 66,567	90.9
Brick and tile	4,215	76,528	July, 104,930	Jan., 38,312	36.5
Potterv, terra-cotta, fire-clay	822	56,168	Nov., 59,355	Jan., 50,383	84.9
Manufacture of glass	363	68,911	Dec., 81,665	July, 40,222	49.6
Steam laundries	5,186	109,484	Aug., 114,539	Jan., 103,746	90.3



Principal administrative officials of the Bureau of Mines gathered recently in Washington, following sessions held in Pittsburgh, to discuss problems arising in connection with the organization's performance of its functions. Superintendents and principal clerks of the bureau's thirteen experiment stations attended the conference. Director H. Foster Bain is the central figure in this photograph of the bureau's officials. Dorsey A. Lyon, supervisor of stations, and E. A. Holbrook, are at the right and left of Director Bain, respectively.

of each month, except, of course, as to very young industries like the manufacture of automobiles, which has not yet reached its full growth.

It is found that the lumber and timber products industry with 480,000 employes has an average of only 83.0 percent, which is less than for bituminous coal mining; iron and steel works and rolling mills averaged 77.4 percent, with 249,000 employes; foundry and machine shop products with 362,000 workers averaged 85.6 percent; the manufacture of cotton goods with 379,000 employes averaged 94.7 percent, slightly less than anthracite mining; construction and repair of steam railroad cars employed 340,000 persons and averaged 95.4, practically the same as anthracite coal mining.

"The seasonal nature of the mining industry, or any other large industry, is not a question that can be studied profitably without going into a similar study of other related industries," says W. W. Adams, statistician for the Bureau of Mines, under whose supervision these unemployment statistics were compiled.

"It is not sufficient to state that the intermittency of mining operations is caused by lack of car supply, no market, strikes, or lockouts. These are only the immediate causes, and any study of the seasonal nature of mining must go farther back than this, and into other industries that do not fall within the province of the Bureau of Mines. This means, in my opinion, that mining is so tied up with other industries, that the seasonal nature of its operations can only be studied with any hope of finding a remedy by assigning the job to a group of experts representing all of the larger industries in the country. Many of the causes of intermittency in operation in any given industry can be remedied by the industry itself, but the more important causes lie outside the industries immediately concerned.

"The intermittent operation of mines probably cannot be remedied without coordinating the efforts of mining men with those of men from other industries. Mining differs somewhat from many industries in that it must support during dull seasons the miners who are needed during busy seasons, because the employes must remain at the mines to be available when work is re-

sumed. They cannot leave and find other sources of income.

The seasonal character of some industries, like canning and preserving industry, which employs 20,000 men in winter and 150,000 in August and September, probably cannot be changed, but mining seems to be an industry that can be helped by studying its seasonal nature."

#### BAUXITE PRODUCTION IN 1921

**P**RODUCTION OF BAUXITE in the United States for 1921 is estimated by the United States Geological Survey, Department of the Interior, at approximately 130,000 long tons as compared with 521,308 long tons in 1920, a decrease of 391,308 tons.

This great decrease in the production of bauxite is largely the result of the curtailed demand for aluminum, particularly aluminum used in the automobile industry, though the curtailed consumption of chemicals containing alumina lessened the output of some of the mines, particularly in the Georgia-Alabama field.

#### OPEN FORUM ON STANDARDIZATION

**M**EMBERS of the mining industry are to have at their disposal an open forum in which they can express their comments, suggestions or criticisms of standardization activities of their industry, particularly those carried on by the Standardization Division of the American Mining Congress.

The national organization announces in connection with its work of this type and in conjunction with a series of articles appearing monthly in the *MINING CONGRESS JOURNAL* that it will be glad to receive expressions of opinion from those who read these special articles.

This correspondence will be published in the journal monthly and a portion of the publication will be devoted exclusively to this comment. Communications should be addressed direct to the headquarters, Munsey Building, Washington, D. C.



**L**ONG-DELAYED action of the Senate finance committee in making its report on the tariff bill formed the last month's most important legislative event as regards the mining industry. The bill now is before the Senate, having been passed by the House last July, and leaders are hastening its consideration on the floor. Provisions of the measure relating to the mining products are reviewed in another article in this issue.

Another important action was the passage by the Senate of a bill already passed by the House providing for additional Federal district judges in various states to keep abreast of litigation which is now crowding Federal court dockets. This bill is now in conference to adjust Senate amendments, but is expected to be enacted shortly. As passed by the Senate, the bill provides for two additional Federal district judges each, in Massachusetts and the Southern District of New York and one additional Federal district judge in each of the following districts: Eastern District of New York, New Jersey, Eastern District of Pennsylvania, Western District of Pennsylvania, Northern District of Texas, Eastern District of Michigan, Northern District of Ohio, Northern District of Illinois, Minnesota, Eastern District of Missouri, Western District of Missouri, Eastern District of Oklahoma, Montana, Northern District of California, Southern District of California, Arizona, Northern and Southern Districts of Georgia, Southern District of Florida and New Mexico.

Congress also completed the personnel of the Commission which is to adjust loans and interest thereon to foreign countries growing out of the war. This commission consists of the Secretaries of State, Treasury and Commerce and Senators Street, of Utah, and Representative Harter, of Iowa. Assistant Secretary of the Treasury, Wadsworth is expected to be Secretary of the Commission.

The coal strike on April 1 brought out a number of bills designed to meet the needs of the industry. One of these is a measure which has been introduced by Representative Harter, of Iowa, and is being sponsored by the President of a coal

commission to investigate conditions affecting wages and employment in the mines. Extensive hearings were held on the bill by the House Committee on Labor. Among those heard were government officials who gave information as to wages, cost of living and working time in the mines; coal operators who gave their position with reference to opposition to a national wage conference, due to fear of court prosecution, in view of the fact that indictments are pending against them growing out of the last wage agreement, and representatives of the mine union, who defended the miners in their opposition to wage reductions. The House Committee on Labor invited operators of the central competitive field to meet in conference in Washington April 10, but the invitation was declined.

Representative Huddleston, Alabama, presented a bill to permit the operation of suspended coal mines by court receivers upon petition of the Attorney General and regulating the assignment of cars to coal mines based on the capacity of mines, quality of product, demand and market prices, etc.

The House adopted an amendment to the Department of Justice Appropriation bill forbidding use of funds contained therein in prosecution of any organization or individual from entering into a combination or agreement having in view the increasing of wages, shortening of hours or bettering of conditions of labor or for any act done in furtherance thereof, not in itself illegal. It also forbids prosecution of producers of farm products and associations of farmers who cooperate to obtain and maintain fair and reasonable prices for their products. Representative Husted sought to forbid the prosecution of producers of mineral products and associations of producers of mineral products, but the House rejected an amendment to that effect.

The Senate subcommittee of the Judiciary Committee investigating the alleged dye lobby and monopoly has held hearings throughout the month, many witnesses in the chemical and dye industry appearing. They have failed to de-

velop any charges of monopoly, lobbying or undue influence on government officials in behalf of the industry.

The Senate Agriculture Committee and the House Military Committee have been considering lease offers for the Muscle Shoals, Ala., nitrate plants. Several members of both committees made an inspection of the plants. A bill has been introduced by Chairman Norris, Nebraska, of the Agriculture Committee, to create a Federal chemical corporation with headquarters at Muscle Shoals, Ala., to develop the project.

The Senate Committee on Patents has been holding hearings on proposed legislation to require the operation of patents. Bills on the subject propose to limit the life of a patent unless operated within a reasonable time. Opposition thereto has developed on the ground that it would prevent the development of inventions.

The Senate passed the bill, which has been already passed by the House, to extend the immigration restriction law for two more years.

The Senate completed ratification of the various treaties limiting naval armament, operation of submarines and use of poison gas.

The Senate adopted an amendment to the Agriculture Appropriation bill providing for an investigation by the Department of Agriculture and Bureau of Standards looking to standardization and simplification of farm implements and machinery.

The House has passed all of the government appropriation bills carrying funds for government activities beginning July 1, the last bill considered being that for the Navy Department.

The House Committee on Mines and Mining on April 27 began hearings on the Arentz bill proposing general revision of the mining laws.

An investigation by the Committee on Banking and Currency of the administration of the Federal Reserve system and the Comptroller of the Currency has been authorized by the Senate. Legislation designed to clarify the situation concerning the legality of trade associa-

### IMPORTANT BILLS REVIEWED IN THIS ISSUE

#### TRADE ASSOCIATIONS—

H. R. 11156: By Mr. McArthur. (Defining Status)

H. J. Res. 301: By Mr. McArthur. (Industrial Investigation)

#### TARIFF—

H. R. 7456: (Reported by Senate Finance Committee for final action)

#### COAL—

H. R. 11022: By Mr. Bland. (Investigating Commission)

S. Res. 265: By Mr. Calder. (Statistics)

H. R. 11281: By Mr. Huddleston. (Operation during strikes)

#### CHEMICALS—

S. 3420: By Mr. Norris. (Creation of Federal Chemical Corporation)

#### PATENTS—

S. 3325 & 3410: By Mr. Stanley. (Operation required)

S. 3297: By Mr. Ladd. (Operation required)

#### MANUFACTURERS—

H. R. 10967: By Mr. Hull. (Manufacture of government materials in Federal plants)

#### LABOR—

H. Con. Res. 53: By Mr. Volstead. (Manufacture by prison labor)

H. R. 11155: By Mr. Zihlman. (Create Asst. Secy. of Labor)

#### OIL—

S. 3311: By Mr. Frelinghuysen. (To prevent oil pollution)

S. 3457: By Mr. Kendrick. (Royalty payment to Wyoming)

#### TRANSPORTATION—

S. 3290: By Mr. Ladd. (State control of State rates)

H. R. 10768: By Mr. Volstead. (Penalties for freight theft)

H. R. 11322: By Mr. Furnell. (Railroad liability for mis-statement of rates)

#### MEXICO—

H. Con. Res. 66: By Mr. Connally. (Recognition of Mexico)

tions was proposed in bills introduced by Senator Edge, New Jersey, and Representative McArthur, Oregon. They propose that a Congressional Commission shall investigate and report on the scope of activities which may be conducted by such associations, reporting legislation on the situation next December. They introduced bills placing operation of trade association under the Federal Trade Commission with authority for the Commission to certify as to the legality of certain practices. They also propose that representatives of the Commission may sit in meetings of the trade associations or their committees.

The next large question to come before Congress is that of government reorganization. The President is expected shortly to send to Congress the report providing for reorganization of government departments in the interest of economy and efficiency which has been drafted by a Congressional commission on which the President had a personal representative.

Senator Kendrick, Wyoming, introduced a bill to give that State 5 percent royalty on all oil and gas produced from naval petroleum reserve No. 3 in that state.

#### TRADE ASSOCIATIONS

##### *Regulation Proposed*

H. R. 11156. Introduced by Mr. McArthur. Referred to the Committee on Judiciary. This bill proposes the regulation of trade associations under the Federal Trade Commission. Trade Associations are defined as "any association composed of members each of whom is separately engaged in the same line of

commerce or whose activities relate to the same line of commerce, whether the association is incorporated or voluntary, except labor unions, associations of banks or of common carriers or for purely social, charitable, or scientific purposes." The bill prescribes that such associations, unless excused by the Commission, shall file with it a statement "of its general character and proposed activities, a complete list of the names and addresses of its members, officers, directors, committees or other managing agents, together with a true and complete memorandum of its constitution or articles of association, of its by-laws, of the minutes of all meetings, and of all resolutions and all agreements of any nature whatsoever, express or implied, whether between members of the association as such, or whether between the association or its members as such and others and of all changes, modifications, or cancellations thereof."

It also provides that such associations shall file with the Commission "all statistics collected by said association, or for the benefit of said association, or its members as such, as to production, shipments, stocks on hand, contracts, prices, credit information, and all other statistics of any nature whatsoever respecting the trade; and on request of the Commission the members of any such association shall furnish to the Commission such additional statistical information with respect to their own business as the commission may require. The Commission may give publicity to all statistics, or to such part thereof as in its opinion will be for the interest of

the public. Unless prohibited by order of the Commission, the association may distribute among its own members any statistics so filed or give them such additional publicity as the association may see fit." The Commission is given authority to prescribe the methods for filing statistics and other information required which shall be open for public inspection except trade secrets and names of customers. Penalties of \$500 for failing to file information and \$5,000 and one year imprisonment for false statements are provided. The bill also proposes that the Commission may have a representative or representatives present at meetings of associations or their committees.

Authority is given trade associations to request from the Commission a specific ruling with respect to the legality of its plan of organization as expressed in its constitution or articles of association, and by-laws and any agreements or contracts between the association and its members, which constitute the working basis of the association. If the Commission finds the plan of organization and operation and the agreements between associations and its members do not violate the anti-trust laws, it shall approve such plan of organization, operation and agreements, issuing a certificate to that effect. If the application discloses features in conflict with anti-trust laws, the commission shall suggest changes to conform with the law.

It is provided that "the issue of such certificate shall not be a legal prerequisite to the organization or operation

of any trade association, but no trade association shall be entitled to the privileges and immunities hereinafter set forth unless it shall have received such a certificate." Associations receiving such certificates may "request from the Commission a specific ruling with respect to any rules, methods, systems, or plans adopted or proposed to be adopted by the association for uniform use by its members in regard to cost accounting or for the preparation, collection, compilation, and distribution of trade statistics, the establishment of proper trade definitions, trade names or brands, the establishment of just and proper trade practices and other similar matters relating to the industry as a whole, in which uniformity of practice is in the best interests of the industry." It is also proposed that the Commission shall call into conference trade associations to decide on "the uniform use of methods of cost accounting, preparation, collection, compilation, and distribution of trade statistics, the establishment of just and proper trade practices and customs, the definition of unfair trade practices and customs, and other similar matters relating to the industry as a whole, in which uniformity of practice is in the best interests of the industry."

The agreement of a majority interest, measured by volume of business in any line of industry as expressed at such a conference and approved by the Commission, in so far as it relates to trade definitions, trade names or brands, trade practices and customs, the definition of unfair trade practices, and the establishment of proper substitutions therefor, shall constitute the law merchant of that line of industry and deviation therefrom shall constitute unfair methods of competition, the use of which shall be prevented by the Commission under and in accordance with its constituent act."

S. 3385. Introduced by Senator Edge. Referred to the Committee on Commerce. This bill is similar to the foregoing.

#### INDUSTRIAL INVESTIGATION

H. J. Res. 301. Introduced by Mr. McArthur. Referred to the Committee on Judiciary. This bill proposes an investigation by three senators and three representatives reporting December 1 next as to the "most effective way and means to revive industry and to stimulate foreign and domestic trade, to stabilize business conditions as to the future, to minimize the danger and distress of recurring periods of business depression with their resultant cycles of general unemployment, and to define the rights and limitations of cooperative organizations to be established from illicit competition in restraint of trade."

H. Res. 185. Introduced by Mr. Edge. Referred to the Committee on Commerce. This resolution is similar to the above.

#### TARIFF

##### (General Revision)

H. R. 7456. This bill, which was passed by the House July 21, 1921, has been reported to the Senate by the Senate Finance Committee and is now under consideration by the Senate.

#### COAL

##### (Federal Commission)

H. R. 11022. Introduced by Mr. Bland, of Indiana. Referred to Committee on Labor. This bill, on which hearings were held early in April, proposes the establishment of a Commission of three persons by the President to investigate and report to him on existing labor conditions in the coal industry with particular reference to wages, hours of labor, and working conditions of coal miners, together with the causes of the present industrial dispute between operators of the coal mines and coal miners.

##### (Statistics)

S. Res. 265, by Mr. Calder, pending on call. This resolution would direct the Federal Trade Commission to make inquiry into conditions in the production and disposition of bituminous coal. It would require the Commission to report to the Senate data as to the factors in the cost of production, including labor, investment, supplies, and all other items; the cost of transportation, the margins in wholesaling, jobbing, and retailing of coal, and the price paid by the consuming public.

##### (Operation During Strikes)

H. R. 11281. Introduced by Mr. Hudleston. Referred to the Committee on Interstate and Foreign Commerce. This bill seeks to operate coal mines under court receivers in case regular operation is suspended. It provides as follows: "That whenever a mine used for the production of coal for interstate commerce shall suspend such production the district court of the United States for the district in which said mine is situated, or the presiding judge thereof if such court be not in session, shall, upon the petition of the Attorney General, appoint a receiver for the said mine and the equipment, appurtenances, plant, and other property used in connection therewith.

"That, subject to the direction of the court, the receiver so appointed shall operate the said mine and property for the production of coal until the release and restoration thereof to the possession of the person, firm or corporation entitled to such possession shall be directed by the Attorney General or until such person, firm or corporation so entitled to possession shall reasonably satisfy the court having jurisdiction of the proceeding that operation of said mine will be proceeded with if so released and restored." The bill also seeks to regulate the as-

signment of cars to coal mines by the Interstate Commerce Commission to each mine or to each operator of a group of mines. It proposes that the assignment shall be made annually, based on findings" as to capacity of mine or mines, quality of product, demand and market therefor, prices at which said product is sold, and such other factors as may relate to the public welfare."

#### MANUFACTURES

##### (Government Supplies)

H. R. 10967. Introduced by Mr. Hull. Referred to the Committee on Rivers and Harbors. This bill is designed to remove financial incentives to war by stabilizing the production of military materials in federal industrial plants instead of by private contract, as at present. The bill provides that all vessels, machinery, equipment, etc., naval ordnance, army ordnance, and other military equipment and supplies shall be constructed, reconditioned, repaired, manufactured or produced in government navy yards, arsenals or other industrial establishments owned and operated by the government.

#### CHEMICALS

##### (Federal Corporation)

S. 3420. Introduced by Mr. Norris. Referred to the Committee on Agriculture and Forestry. This bill creates a Federal chemical corporation of three members appointed by the President at \$7,500 a year, with headquarters at Muscle Shoals, Ala. To this corporation would be turned over the U. S. nitrate plants at Muscle Shoals and all laboratories and plants used in connection therewith, including the Fixed Nitrogen Research Laboratory at Washington. The corporation would have authority to establish agencies anywhere in the country for the sale of its products, and, in order to prevent a monopoly of fertilizer or undue and unreasonable advance in its prices, to manufacture and sell fertilizer direct to farmers or their organizations. In the sale of chemical parts of fertilizer to manufacturers, the corporation would have the power to prescribe prices at which the manufacturer should sell fertilizer to the farmer. The bill declares one of its objects to be to "regulate the sale of fertilizer to persons engaged in agriculture with a view to preventing control of prices of such fertilizer by a monopoly or the sale thereof at unreasonable prices." The bill also directs the Secretary of War to make surveys above the dams on the Tennessee River and its tributaries for the purpose of locating storage reservoirs to provide for a larger amount of primary power to be developed at these dams.

#### LABOR

##### (Prison Manufacture)

H. Con. Res. 53. Introduced by Mr. Volstead, and reported from the Commit-



tee on Judiciary. This provides for the creation of a committee of three members each of the Senate and the House Judiciary Committees to investigate and report next December as to employment of prisoners and what articles it is desirable to produce or manufacture in the U. S. penitentiary at Leavenworth and McNeil Island, Washington. The bill has the endorsement of the Department of Justice on the theory that Federal prisoners should not remain in idleness, but should produce articles, particularly for government use. At present a textile mill is in operation at the Atlant. Ga., penitentiary.

(Assistant Secretary)

H. R. 11155. Introduced by Mr. Zihlman. Referred to the Committee on Labor. This bill creates an Assistant Secretary of Labor, appointed by the President, at \$5,000 salary per annum.

S. 3396. Introduced by Mr. Dupont. Referred to the Committee on Appropriations. This bill is for the same purpose.

PATENTS

(Operations Required)

S. 3325. Introduced by Mr. Stanley. Referred to the Committee on Patents. This bill limits a patent to not less than two years and not more than five years unless worked or put in operation.

S. 3410. Introduced by Senator Stanley. Referred to the Committee on Patents. This bill would require the actual production in the U. S. of articles under a patent in reasonable quantities within a reasonable time.

S. 3297. Introduced by Mr. Ladd. Referred to Committee on Patents. This bill seeks to limit a patent to five years in case it is not used by the patentee or two years if not used by the person to whom the patent may be assigned.

OIL POLLUTION

(Prevention of)

S. 3311. Introduced by Mr. Frelinghuysen. Referred to Committee on Commerce. This bill would prevent the discharge of oil into navigable waters of the U. S. It authorizes the Secretary of Commerce to make investigation to determine what substances, if any, other than oils, are emptied, thrown, discharged, or deposited, or are permitted to flow or run upon or into the navigable waters of the U. S. in such manner as to endanger or interfere with navigation or commerce upon such waters or fisheries therein. The Secretary shall report the results of the investigation to Congress not later than two years after the passage of this act, together with such recommendations for legislation as he deems advisable.

H. R. 10956. Introduced by Mr. Appleby. Referred to the Committee on

Rivers and Harbors. This bill is similar to the above.

(Conference)

H. J. Res. 297. Introduced by Mr. Appleby. Referred to the Committee on Foreign Affairs. This resolution would authorize the President to call a conference of maritime nations with a view of adoption of effective means for the prevention of pollution of navigable waters. It points out that casting of oil refuse into the sea from oil-burning and oil-carrying steamers has become a serious menace.

TRANSPORTATION

(State Control)

S. 3290. Introduced by Mr. Ladd. Referred to the Committee on Interstate Commerce. This bill seeks to define commerce and establish when an article or commodity is in interstate commerce and when it is subject to laws of a state. It defines intrastate commerce as the movement of commodities wholly within a state; interstate commerce as the movement of commodities from one state to another and international commerce as the movement of commodities from one nation to another. The bill seeks to exempt from Federal control articles of commerce transported within a state.

H. R. 10939. Introduced by Mr. McClintic. Referred to the Committee on Interstate Commerce. This bill is of similar import designed to restore to the state jurisdiction exercised over intrastate questions prior to the war.

(Freight Theft)

H. R. 10768. Introduced by Mr. Volstead. Referred to the Committee on Judiciary. This bill provides penalties for stealing freight and express packages in transportation in interstate commerce.

(Rates)

H. R. 11322. Introduced by Mr. Purnell. Referred to Committee on Interstate Commerce. This bill seeks to amend the Interstate Commerce act by providing that railroads shall be liable to persons or companies who suffer damage by reason of misstatement of rates.

OIL

(Royalty Payment)

S. 3457. Introduced by Mr. Kendrick. Referred to the Committee on Public Lands. This bill provides that the State of Wyoming shall receive a royalty of not less than 5 percent of all oil and gas produced from naval petroleum reserve No. 3 in Wyoming, known as the Teapot Dome.

MEXICO

(Government Recognition)

H. Con. Res. 55. Introduced by Mr. Connally. Referred to the Committee on Foreign Affairs. This resolution re-

quests the President to recognize the Republic of Mexico in order that official relations between the U. S. and Mexico may be restored.

INDUSTRIAL NOTES

The demand for valves capable of being operated by electric control from one or more remote points has induced The Lunkenheimer Company of Cincinnati, Ohio, to make a special study of this method of control to the end that they may in all good faith warrant the perfect operation of any electric control valve of their manufacture.

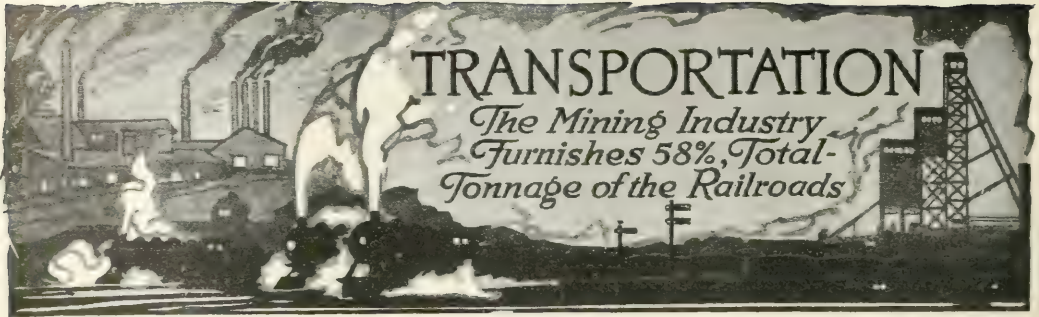
Until the tests conducted by the Public Service Electric Company at Newark, N. J., on January 28, 1922, under the auspices of the National Electric Light Association, great doubt existed as to the possibility of closing a gate valve under the extreme velocity conditions occasioned by a ruptured steam line, but the test proved, beyond the question of a doubt, that a valve properly constructed would effectively operate.

Lunkenheimer Motor Operated Gate Valves are procurable in either Iron Body Bronze Mounted or Cast Steel Monel Mounted patterns in sizes 6 inches and larger. All valves are equipped with Dean Control and may be ordered with as many separate Control Stations as desired.

The Hanover Bessemer Iron and Copper Company announced last month that it would resume operations on May 1 at its iron mines at Fierro, New Mexico. The property, which is controlled by the United States Smelting and Refining Company, has been closed down for one year. L. M. Kniffin will return as manager.

Pointing out some of the fallacies that have heretofore existed in the specifications of jacks, a new bulletin has been issued by Templeton, Kenly and Co., Ltd., of Chicago. It incorporates definite knowledge of lifting appliances as seen from the engineering viewpoint, and is intended to emphasize "the superior man power of the Simplex Jacks and the reasons contributing to this."

Reports from various parts of the country show that "Dumomite," the new explosive recently put on the market, is effecting reductions in blasting costs amounting to one-third and more. Statements from users show this is especially true in quarry, farm blasting and other open work, because the new dynamite frequently shoots stick for stick with regular 40 percent dynamite while, at the same time, each case contains at least one-third more cartridges.



By C. H. FARRELL

CONTRARY to expectations the Interstate Commerce Commission, up to this writing, has not released its decision as to whether or not any reductions can be made in the level of rates throughout the country. It was generally believed that the Commission would have its decision ready during the first days of April, but it is now evident that it will not be available much before May 1. A variety of opinions are being expressed regarding it, but it is probable that there are some differences of views among the individual Commissioners which must be thrashed out before the public is advised of the outcome.

LEGISLATION—Committees of the House and Senate have both been busy during the last session hearing numerous witnesses for the purpose of determining what amendments, if any, should be made to the Transportation Act which was passed at the end of the period of Federal control. More recently the Senate Committee has been quite active and has been listening to witnesses for the Railway Executives who have been defending the course of the carriers just prior to the war and during the period of Federal control. Mr. Daniel Willard, President of the Baltimore & Ohio, who occupied the stand before the Senate Committee for several days, summed up his testimony at the conclusion by saying that he had tried to show the committee that the railroads had not broken down as transportation agencies in 1916 and 1917, that the railroads were not returned to their owners, as contended by Mr. McAdoo, in better physical condition than when taken over by the President, that the condition of the railroads, as a whole, was lower at the end of Federal control than at the beginning and that this difference in standard must be made up and unless it is made up from monies paid to the carriers by the Director General on account of under maintenance it will, of course, have to be done with monies collected from the people through the method of a rate increase.

Mr. Willard stated that he believed that Congress had acted wisely in providing for the operation of the railroads as a war measure and that the President had acted wisely in exercising the power granted to him by the Congress; also that after the Armistice there was no reason for retaining the properties as a war measure but that it would have been unwise and destructive to terminate Federal control before Congress had provided a better method of regulation than had been in effect previous thereto. Mr. Willard also stated that Congress did not authorize the President to assume control of the railroads for the purpose of developing relative merits of private ownership and operation as opposed to Government control and operation, and that any steps taken in that direction during the period of Federal control which resulted in any manner inimical to the best interests of the public or of the carrier properties were unfair, unwarranted and illegal because they were not justified by law.

He also stated that there was much which had happened since the termination of Federal control which justified the wisdom of the Transportation Act, and he expressed the belief that the carriers need more than anything else, at the present time, an opportunity under the law as it exists to work out their problems without unnecessary and burdensome interference. If they are given this opportunity Mr. Willard stated that he felt confident they would be able to provide the people of this country with adequate transportation at reasonable rates and lower rates than are to be found for similar service in any other country in the world. This was done under what he calls the faulty scheme of regulation in effect before the war, and consequently he is convinced that much more can be done under the better and wiser scheme of regulation provided for by the Transportation Act.

Mr. Julius Kruttschnitt, Chairman of the Board of the Southern Pacific Company, was another witness, who con-

tended that the charges made before the committee by Mr. McAdoo to the effect that Federal control was necessary because the railroads broke down in 1917 were disputed by previous utterances both by Mr. McAdoo and by President Wilson, as well as members of the Interstate Commerce Commission and others. The reasons assigned by Mr. Kruttschnitt for failure of Federal control were the extreme centralization of authority "established by the first Director General and attributable to his temperament and unwillingness to delegate adequate and necessary power to the local officers," and second, excessive and unintelligent standardization.

The results of the first, he said, were destruction of morale and discipline, the teaching of labor to ignore and condemn their officers, to look to Washington to save the employes from punishment for neglect of duty and breaches of discipline, for increases of pay and indirect increases for services never performed, and double pay for the same hours of service, all of which produce poor service and indifference to the public. Mr. Kruttschnitt quoted Senator Cummins as authority for the statement that after twenty-six months of mismanagement the Government surrendered the roads with a heritage of \$1,800,000,000 of debts saddled onto the country and conveniently alleged to thoroughly represent a legitimate war cost, although much of it was inexcusable and avoidable waste. The percentage of operating expenses to the earnings was raised during Federal control from 70.48 percent to 93.47 percent. The renewal of rails, ties and ballast was skimmed to the danger point, and the equipment which had become scattered all over the country was in the worst condition ever known, according to Mr. Kruttschnitt, who quoted numerous figures in support of his contentions. Mr. Kruttschnitt, in conclusion, stated that the carriers were left at the end of Federal control with the unpopular task of seeking an increase in revenues which would meet the increase in expenses, an

obligation which did not belong to the carriers because they had not created the necessity. As to wages, he admitted the necessity of increases but not to the extent authorized by the Director General.

As an indication of what the chairman of the committee, who will formulate any additional legislation affecting the carriers, thinks of the results of Federal control, the remarks of Senator Cummins made during these hearings are interesting. He stated that the "most serious complaint that can be made of the Railroad Administration lies in the fact that it did not return the railroads to their owners self-sustaining; it ought to have established rates, before the railroads were returned, that would make the railroads reasonably self-sustaining. It was just as much the duty of the Government to return these roads with rates that would sustain them in their operation as it was its duty to return them in as good condition physically as it took them. And that is a matter that has not been sufficiently understood by the people of the country. And I think when it is fully understood that very much of the criticism that has fallen upon the railroads since that time will disappear. I have had that in my mind so long that I felt bound to give it expression at this time." Senator Pomerene at this point expressed himself in full agreement with Senator Cummins.

The committees of Congress will continue, from time to time, to take testimony which they believe will be helpful in determining what amendments, if any, should be made to the Transportation Act, but it is not thought that any railroad legislation will be passed before the fall elections. Great pressure, however, will be brought from numerous sources to have repealed what is known as the guaranty provision, requiring the Interstate Commerce Commission to keep the rates at a level which will earn a given percent (this percent was originally 6, but can be named by the Commission now at a higher or lower rate). There will also be considerable agitation to have the rights of numerous State Commissions extended.

**FREIGHT TONNAGE**—The large part which the mining industry plays in furnishing the carriers of this country with their tonnage is again shown in figures compiled for the year ended on December 31, 1921. During that year the total number of tons of revenue freight originated on all the carriers of the country was 1,255,420,991, out of which products of mines are credited with 712,154,158 tons, or 56.7 percent. The Commission divides the tonnage into the following classifications: 1, Products of agriculture; 2, Animals and products; 3, Products of mines; 4, Products of forests; 5, Manufactures and miscel-

laneous; 6, Merchandise, which includes all less than carload traffic. And it is significant that out of these classifications the nearest one to products of mines was manufactures and miscellaneous, with 251,864,290 tons furnished. It is also significant to note that products of mines, compared with the year 1920, showed a decrease of 28.27 percent in the amount of tonnage available, while manufactures and miscellaneous fell off 31.64 percent. The other classifications showed smaller decreases, with the exception of products of agriculture, which showed an increase of 2.87 percent. It should also be noted that numerous commodities, such as refined petroleum and its products, iron, pig and bloom, bar and sheet iron, other metals, pig, bar and sheet, and numerous manufactured articles, are not credited to products of mines but are credited instead to manufactures and miscellaneous.

Taking the total tons carried, which includes numerous shipments reported by two or more carriers, we find that out of a total of 2,259,983,273 tons products of mines are credited with 1,209,097,673 tons, or 53.5 percent. The first total includes 5,944,927 tons for which distribution by commodities was not furnished to the Commission, and undoubtedly a large percentage of this should be credited to products of mines.

**EARNINGS**—During the month of February the railroads of the United States had a net operating income of \$47,762,600, which was at the annual rate of return of 4.57 percent upon their tentative valuation for rate-making purposes fixed by the Commission. This compares with an operating deficit of \$5,176,867 during February last year, and is \$14,884,000 short of the amount necessary to have enabled the carriers to earn a 6 percent return. Operating revenues for the month compared with the same month last year showed a decrease of 1.3 percent, operating expenses were 15.6 percent under those last year, and there was a net operating income compared with a deficit last year as shown above. In spite of the decrease in operating revenues the carriers handled approximately 14 percent more freight than was handled last year, and only 80.84 percent of the operating revenues went for operating expenses compared with 85.40 percent in January, indicating an increased efficiency and economy in management. For the Eastern district operating revenues showed an increase of 5 percent over last year, operating expenses fell off 15.1 percent, and net operating income amounted to \$29,535,800 compared with an operating deficit of \$7,627,592 last year. The net operating income for the East was at the annual rate of return of 7.17 percent on the tentative valuation. In the southern district operating revenues de-

creased 3.6 percent, while operating expenses were reduced 17.7 percent. The net operating income was \$7,048,800 compared with \$466,257 last year, the rate of return for this year being 3.98 percent. In the western district operating revenues fell off 8.2 percent, while operating expenses were reduced 15.6 percent. The net operating income was \$11,177,900 compared with \$1,984,468 last year, the rate of return being 2.46 percent for this year. The statement of the Railway Executives attributes the increase in the Eastern district and the falling off in the south and west to the large movement of coal traffic, particularly in the east, due to the coal strike which was then in contemplation, coal, for instance, showing an increased loading of 26 percent compared with an increased loading of all other commodities other than coal of only 6.43 percent. In the eastern district freight traffic during February was 22 percent heavier than during last year, while in the western district the increase was only 4.7 percent and in the southern district 7.8 percent. In February 55 railroads reported operating deficits compared with 74 in January.

#### FELLOWSHIPS IN MINING COURSES

INVITATIONS have been extended to qualified men to make applications for fellowships during the year 1922-1923 in the Department of Mining and Metallurgical Research, University of Utah, operated in connection with the Utah Station of the Bureau of Mines under a cooperative research program.

The problems to be continued during the coming year are the following: ore-dressing problems dealing with crushing and flotation; problems inherent in the chloridizing volatilization process, including equilibrium measurements and fume treatment; study of the fundamental chemical reactions involved in the chloridizing roasting; oil shale technology, and hydrometallurgy of zinc.

#### PERSONALS

Charles H. Smith, formerly president of the International Coal Products Corporation, Clinchfield Carbocool Corporation, General Oil Gas Corporation and Bregent Corporation of America, has announced resumption of his office at No. 55 Liberty Street, New York, where he will continue his former practice of mining engineer, specializing in prospecting, development, operation and appraisals of coal properties, and the low distillation of coal.

E. B. Leisenring, an active member of the Mining Congress, whose headquarters were formerly at Hazelton, Pa., has moved to 1727 Land Title Building, Philadelphia, Pa., where all communications should be addressed.

### MINES SAFETY CODES AND DEVICES STUDIED

**S**TUDIES OF MECHANICAL safeguards and mechanical safety devices in and about mines are being continued by the Bureau of Mines. The particular subjects investigated are safety catches for mine cages, gates for mine shafts, standard platforms, railings, and toe boards for use in and about mines, safe mine ladders, safe practice for steam engines and boilers, safe hoisting ropes and attachments, safety catches on slopes and inclines, selection, installation, and care of belts, and standardization of mine-car equipment. In connection with this work approximately 50 mines and 11 quarries have been visited.

The bureau's study of mine safety codes, including those of more than 30 different states, is being continued, and abstracts have been made of those sections relating to mechanical safeguards and mechanical safety devices. A tentative safety code has been prepared covering the various phases of mechanical protection in and about mines. Such a code will be useful to commissions or similar bodies having in hand the revision of existing codes. Need exists for standardization by the different states of mine safety codes, particularly in regulations relating to mechanical safeguards.

### BIBLIOGRAPHY ON SAMPLING

**A** BIBLIOGRAPHY of literature on ore sampling has just been issued by the Bureau of Mines. So far as is known to officials of the bureau, there previously has been no complete work on this subject, so the present one, compiled by W. J. Sharwood and M. W. von Bernwet, should prove of exceptional value.

It contains nearly eleven hundred references, some dating back 30 years, on sampling at mines, mills, smelters, power plants, pumping stations and refineries. For convenience, it includes a few references to methods for sampling such materials as leather belting in mills, salt impregnated soils, and mine waters. All the important technical journals, including some of those published in foreign countries, and mining and metallurgical text books, have been studied for anything concerning sampling.

### AIRPLANES TO AID MINE SAFETY

**D**EVELOPMENT OF AIRPLANES as effective agents of transportation when mine disasters require the speedy arrival of safety experts and apparatus has achieved progress through the completion of an agreement between the Bureau of Mines and the Army Air Corps.

### COURSE IN COAL MINING

**A** SUMMER COURSE in coal mining will be offered this year by the Co-operative Department of Mining Engineering at Carnegie Institute of Technology, Pittsburgh, Pa. The course will be four weeks long, from June 26 to July 21, and will be given in cooperation with the United States Bureau of Mines.

The primary object will be to prepare miners for the examinations of the Pennsylvania State Department of Mines for positions as fire-bosses and mine foremen.

### ENTERS IMPORTANT POSITION

**L**EONARD A. BONNER has been appointed District Manager of the



Great Western Smelting and Refining Company, with headquarters at Pittsburgh. He served in France as captain in the Motor Transport Corps of the American Expeditionary Forces and later

was associated with the Standard Parts Company and Willys Corporation. He is a son of James B. Bonner, of the United States Steel Corporation.

### WAR MINERALS COMMISSIONER TAKES ACTION ON MANY CASES

**A** STEADY FLOW of war minerals relief cases is moving from the office of Commissioner Ira Robinson to the hands of Secretary Fall, there to await final action of the commissioner's recommendations.

The following is a list of the cases which were passed upon by the commissioner during the period between March 14 and April 15, with notation of his recommendation:

#### AWARD RECOMMENDED

Joe McGuire and Everett Mining & Dev. Co., Anderson, Kansas, Manganese. Former commissioner held that losses were sustained by claimant due to outside contract entered into prior to date of stimulation. Claimant testifies that contract was cancelled afterwards. Award of \$6,802.79 recommended. Affirmed by secretary Sherman, Emerald & Kirkland, Salt Lake City, Utah. Awards of \$163.63, \$233.63, and \$222.63, respectively, recommended for each by commissioner.

Frank Rose, Talent, Oregon. Award of \$593.24 recommended by commissioner.

J. W. Buckworth and Joe Meadows, Sumpter, Oregon. Awards of \$406.17 for each recommended by commissioner.

Chas. Sisson (deceased), Boulder, Colo. Award of \$295 recommended for widow of above.

Inez L. Shebley for Frank L. Shebley, deceased, Brookdale, Calif. Award of \$2,361.85 recommended by commissioner.

Ernest A. Garrison, Forest Hill, Calif. Award of \$179.48 recommended by commissioner.

Willis A. Sharp, Grants Pass, Ore. Award of \$1,045.82 recommended by commissioner.

Thomas E. Plumridge, Trustee for John E. Hanon, 316 Wainwright Bldg., St. Louis, Mo. Award of \$1,157.52 recommended by commissioner.

#### DISALLOWANCE RECOMMENDED

Superior Mining Co., Elizabethton, Tenn. Operations resulted in profit and not loss. Disallowed.

Sarah F. O'Garra, Bessemer, Ala. Claim for expenditures for property only, no operating expenses. Disallowed.

J. G. Marcum, Joplin, Mo. Claim of \$19,177.26, of which \$15,978 was for purchase of property. No effort made to produce and operations were speculative. Disallowed.

P. J. Concannon, Emporia, Kansas. Expenditures wholly for purchase of property. Disallowed.

R. B. Miller, Bluefield, W. Va. Manganese. Property not of commercial importance. Disallowed.

Howard Trumble, Havana, Cuba. Commissioner held that operations subsequent to stimulation resulted in profit. The claimant contended for an earlier date of stimulation. Disallowed.

Fred. H. Luctjens, Reno, Nevada. Expenditures wholly for purchase and development of mining property. Disallowed.

H. C. Abbott, Birmingham, Ala. Mining operations resulted in profit. Disallowed.

Standard Tungsten Co., Los Angeles, Calif. Receipts exceeded allowable expenses. Disallowed.

Ernest G. Tulsalagel, Independence County, Ark. Expenditures for purchase of property only. Disallowed.

J. E. Eurlison, Spruce Pine, N. C. Expenditures were for prospecting on property of no commercial importance. Disallowed.

F. S. Kirkpatrick, Shelbyville, Tenn. (Same as above.)

R. J. Vann and Wm. Monro, Fort Smith, Ark. Expenditures were for purchase of property. No production. Disallowed.

W. A. Parker, Waco, Texas. Property of no commercial importance. Disallowed.

L. A. Milligan, Yreka, Calif. Testimony shows mix-up in statements. Claim should be denied.

A. N. Parsons, Grants Pass, Ore. Ore not of commercial importance. Disallowed.

Morris E. Johnson, Muskogee, Okla. Expenditures wholly for purchase of property. Disallowed.

F. A. H. Arata and W. C. H. Dibbles, San Luis County, Calif. Operations showed profit, not loss. Disallowed.

Victor Rakowsky, Joplin, Mo. Expenditures were for traveling and prospecting. No actual mining. Disallowed.

Thomas Thorkildsen, Los Angeles, Calif. Expenditures wholly for purchase of property. Disallowed.

E. Fleming L'Engle, New York City. Operations were speculative and the loss was not due to the government appeal for increased production. Disallowed.

A. O. Hoffman, Grants Pass, Ore. Property of no commercial importance. Disallowed.

John F. Perkins, St. Thomas, Nevada. Claimant abandoned right for claim. Dismissed.

Howard Strasbaugh, Clovis, Calif. Here the lessee was due to prospecting to find more ore after the first bed had been exhausted. Previous operations had resulted in a profit. Disallowed.

Western Reduction Co., Portland, Ore. The losses sustained were incurred through the production of ferromanganese, which is not a war mineral. Disallowed.

Thomas Walsh, Nederland, Colo. No facts supplied. Dismissed.

David T. Dav. and Associates, Santa Maria, Calif. The claimants attempted to extract chrome from the black sands of the Pacific Coast, a process held impracticable by the Interior Department. Disallowed.

Suffern Co., Inc., New York City. (Same as above.)

F. C. Black, trustee, Oakland, Calif. Manganese. No stimulation established. Disallowed.

Thomas & Sprague, Denver, Colo. Property of no commercial importance. Operations merely speculative. Disallowed.

August Dupzyk, Hornbrook, Calif. Claimant did not perfect claim for award. Disallowed.

Lyle P. Stowell, Billings, Mont. The claimant abandoned project, because no ore of commercial importance was found. Disallowed.

Thorkildsen & Miller, Los Angeles, Calif. Claimant received one award. Balance of claim (\$4,236.47) asked. First award upheld.

Mines Efficiency Co., Duluth, Minn. Property of no commercial importance. Disallowed.

Vindicator Cons. Gold Mining Co., Denver, Colo. Award previously allowed. Claim for purchase of property denied by commissioner.

P. E. Renfrow, Cartersville, Ga. No stimulation established. Disallowed.



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General Electric Co., Schenectady, N. Y.

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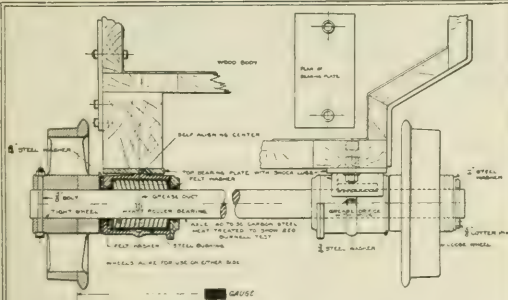
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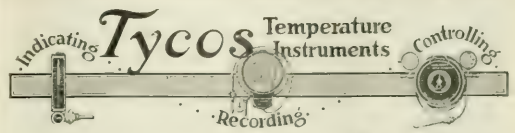
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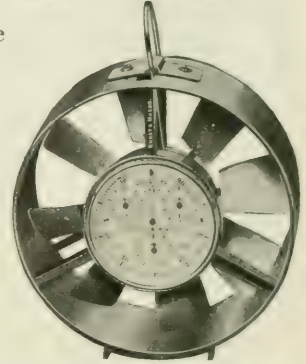


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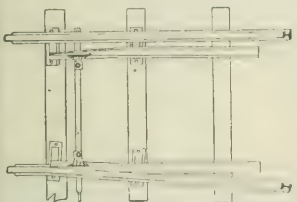


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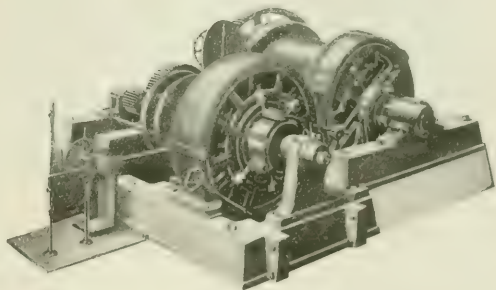
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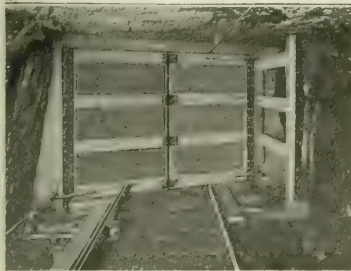
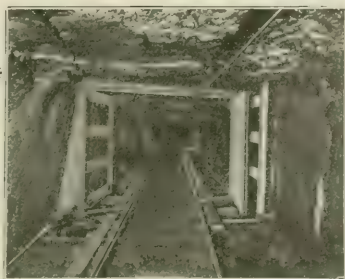
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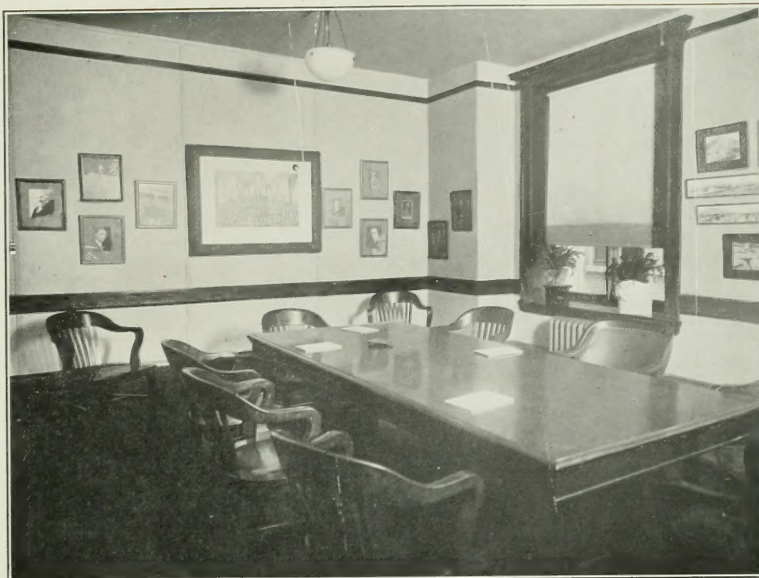
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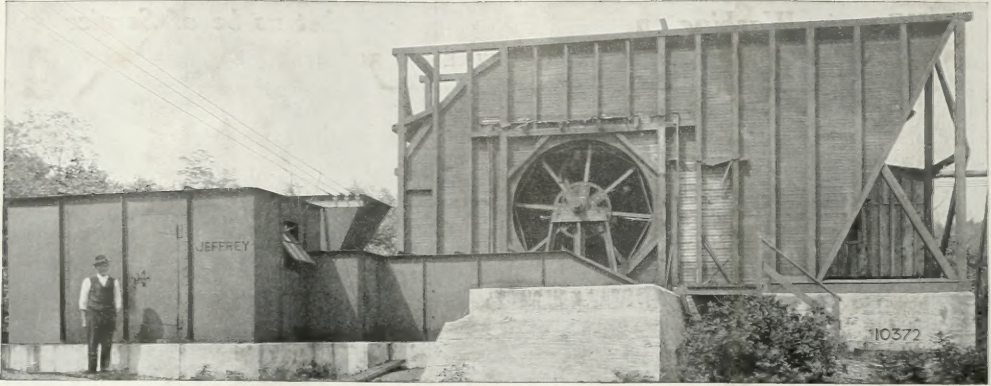
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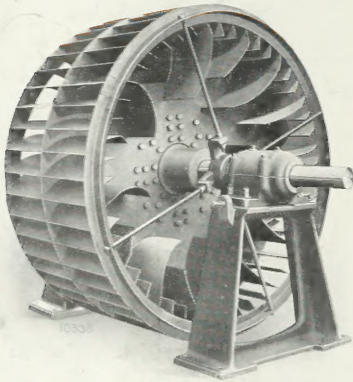
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## If you could save \$6480 in ventilating fan power bills, wouldn't it appeal to you?

The Oak Hill Coal Co., Ducott, Penna., displaced a 16-foot Guibal Fan with a five-foot Jeffrey Stepped Multi-Bladed Fan as shown in the above photograph. In the subsequent test run on the two fans the following results were obtained:



Double Inlet Fan

	Volume	Water Gauge	Horsepower Output in Air	Brake Horsepower	Mechanical Efficiency	Volumetric Ratio
5' Jeffrey Fan	70,000	3"	33	44	75%	400%
16' Guibal Fan	70,000	3"	33	95	35%	59%

The above test shows there is a saving of 51-hp. input on the Jeffrey Stepped Multi-Bladed Fan. This would amount to a saving of 913 kw.-h. in a day of 24 hours. At a price of 2c. per kw.-h. it would equal \$18.00 per day, a saving of \$540.00 per month and \$6480.00 per year in power bills.

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